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**Ciba**

## **SEMIANNUAL MONITORING REPORT**

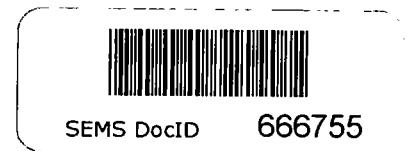
**CIBA-GEIGY FACILITY  
180 MILL STREET  
CRANSTON, RHODE ISLAND**

**MONITORING RESULTS**

**FOR**

**JANUARY – JUNE 2001**

**CIBA SPECIALTY CHEMICALS CORPORATION  
TOMS RIVER, NEW JERSEY 08754**



REC'D 6-22-01  
F-B.

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180 MILL STREET  
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- Appendix B Certificate of Analysis - R. I. Analytical
- Appendix C Time-Series Graphs and Data for Upgradient Wells
- Appendix D Time-Series Graphs and Data for Bulkhead Wells
- Appendix E Time-Series Graphs and Data for In-River Wells

## 1.0 SUMMARY

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On June 16, 1989, Ciba-Geigy Corporation (now Ciba Specialty Chemicals Corporation (Ciba)) entered into an Administrative Order on Consent (AOC) with the USEPA. The AOC required Ciba to conduct a Corrective Measures Study (CMS) and propose Media Protection Standards (MPSs) for the former manufacturing facility at Cranston, RI (the Facility). MPSs for five chemicals of concern (COC) were developed (see Table 1) and are monitored at 12 wells two times a year.

The first 2001 semiannual monitoring episode was performed on April 18-19, at which time 12 monitoring wells and 3 production wells were sampled and analyzed by Rhode Island Analytical for a suite of chemicals including the COC. Semiannual water level readings were recorded on April 17, 2001.

A third Production Well, PW-130, began operating on December 20, 1999. The new well complements the two existing capture wells to achieve hydraulic capture of the plume along the bulkhead in the former production area. The potentiometric surface map (Figure 2, Appendix A) for April 2001, demonstrates capture along the entire bulkhead.

Two of the three capture wells have experienced a decrease in capacity over time. As of April 17, 2001, wells PW-110 and PW-130 were pumping 40 GPM and 16 GPM respectively. Nominal capacity for PW-110 is 45-49 GPM and PW-130 is 23 GPM. The problem appears to be the heavy buildup of iron in the piping system and Ciba is contracting to have the piping replaced in the month of July 2001.

The results of the April 2001, sampling show 1,2-dichlorobenzene and chlorobenzene exceeding the MPS in one well along the bulkhead. The 1,2-dichlorobenzene was 2000 ppb (MPS = 94 ppb) and for chlorobenzene 2100 ppb (MPS = 1700 ppb) and both exceedances are in well P-035S. These results compare favorably to the last sampling of September 2000, where 5 wells, 3 along the bulkhead and 2 opposite the bulkhead on the river side showed contamination exceeding MPSs. These latest results indicate to Ciba that the previous sampling episode may contain some data that will ultimately be labeled as outliers when viewed in the context of a long-term statistical review.

Because the laboratory performing the analyses generated a number of non-detect results with high Method Detection Limits (MDLs) in the September 2000 report, Ciba elected to audit the laboratory in May 2001. The laboratory was found to be in compliance, however, Ciba requested better MDLs be achieved using the EPA analysis of choice method 8260.

Since the previous monitoring episode performed in September 2000, MPS exceedances have decreased from 7 to 1 and encompass 1 well of the 12 wells being monitored.

The next monitoring episode will be in September 2001.

## **2.0 OBJECTIVE**

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The objective of the monitoring program is to evaluate the Groundwater Extraction Treatment System on controlling releases to the Pawtuxet River while long-term corrective measures to areas of concern are being evaluated, specifically SWMU-11.

## **3.0 INTRODUCTION**

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In August 1996, Ciba submitted to the USEPA a Pawtuxet River Corrective Measures Study (PRCMS) Report. In the PRCMS report (Section 3.5.1, page 3-12) Ciba proposed to measure groundwater elevations in the former Production Area quarterly during the first two years following startup of the groundwater capture system and then semiannually until the groundwater capture and pretreatment system were shutdown.

Therefore, groundwater elevation data is collected from 23 wells to show that shallow contaminated groundwater in the former Production Area is hydraulically controlled from discharging into the Pawtuxet River.

Inclusive of the PRCMS Ciba also proposed to monitor groundwater quality at the Facility. Groundwater is sampled semiannually from 12 selected overburden-monitoring wells to evaluate changes in groundwater quality, specifically in COC.

## **4.0 MEDIA PROTECTION STANDARDS**

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During the RCRA Facility investigation an MPS<sup>1</sup> was developed for each of five chemical contaminants detected in the former production area groundwater. These contaminants and their respective MPSs are summarized in Table 1 and discussed in detail in the PRCMS Report, Section 2.4.1..

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<sup>1</sup> From the Public Health and Environmental Risk Evaluation (PHERE) that concluded the sole receptor impacted by contaminated groundwater were benthic invertebrates in the shallow sediments of the Pawtuxet River.

Table 1  
Media Protection Standards  
CIBA-GEIGY, Cranston R.I. Facility  
Former Production Area

Compound	MPS Concentration (ppb)
1,2-dichlorobenzene	94
chlorobenzene	1700
ortho-chlorotoluene	1500
toluene	1700*
xylenes	76

\* Rhode Island Groundwater Objective GB - Groundwater classified as GB has been designated by the Rhode Island Department of Environmental Management (RIDEM) as not suitable for public or private drinking water use.

## 5.0 SEMIANNUAL MONITORING RESULTS

This report summarizes the groundwater quality results for the COC sampling that was performed April 18-19, 2001. The COC data are compared to previous sampling rounds dating back to March 1996, when semiannual monitoring activities were initiated. Also in this report are results of the hydraulic monitoring performed on April 17, 2001. The hydraulic results are compared to pre-pumping baseline conditions dated September 30, 1993.

### 5.1 Hydraulic Monitoring

Piezometric contours for the overburden aquifer were created using data collected on April 17, 2001, from 23 groundwater monitoring wells and 3 capture wells using Golden Software, Inc., SURFER FOR WINDOWS, Version 5.01 software.

The tabulated groundwater elevation data and the associated potentiometric contours, Figures 1 and 2, are included in Appendix A.

The kriging contour algorithm was used as a best fit method of approximating the directional groundwater flow pattern. The baseline results in Figure 1 show groundwater flow from northwest to southeast to the Pawtuxet River. Figure 2 shows the effect of the 3 extraction wells on the groundwater flow. Well PW-110 north of the walk bridge shows groundwater capture at present pumping capacity 40 GPM; the second and third capture wells, PW-120 (3 GPM) and PW-130 (16 GPM), are capturing the plume along the bulkhead south of the walk

bridge. Together the 3 wells are capturing a significant portion of the groundwater passing by the bulkhead to the Pawtuxet River.

The hydraulic capture along the bulkhead is discussed in detail in the report "Capture Zone Analysis, Former Production area, Cranston, Rhode Island" dated July 7, 2000.

### **5.2 Chemicals of Concern Monitoring**

Twelve wells were sampled as part of the semiannual sampling episode. The wells are divided into three main groups; shown on the Location Map in Section iii of this report. The COC analytical results are tabulated and included in Table 2 at the end of this section.

Three wells are designated upgradient to the bulkhead wells and show no MPS exceedance for any of the COC. The upgradient wells show the presence of three COC contaminants, albeit at low concentrations, and continue to be acceptable for background comparisons. Constituent o-chlorotoluene in background well MW-021S appears to fluctuate, but is stabilizing at the lower levels of 400-500 ppb.

The results of the 6 bulkhead wells show the presence of chlorobenzene and 1,2-dichlorobenzene. At bulkhead well P-035S both contaminants were found to exceed the MPSs. Increase contamination at well P-035S was first observed in the April 20, 2000, and followed the introduction of the new capture well PW-130 on December 20, 1999. It would appear that contaminants are part of slug of material passing by the well and over time should decrease. This same observation can be made for well MW-002S, see Appendix D, Table 4.

Two of the three In-River wells show a presence of chlorobenzene. The presence of this contaminant at low levels is not unusual for the subject wells SW-110 and SW-120. The good news for the In-River wells is that no other contaminant was detected for the sampling episode.

**Table 2**

**Monitoring Results for April 18-19, 2001**  
**Chemicals Of Concern**  
**(as ppb)**

Well Designation	Well Number	MPS	94 1,2-Dichloro-Benzene	1700 Chloro-Benzene	1500 o-Chloro-Toluene	1700 Toluene	76 Xylenes
Upgradient	MW-004S		1 U	1	36	1 U	2
	MW-012S		1 U	1 U	1 U	1 U	25
	MW-021S		10 U	10 U	440	10 U	10 U
Bulkhead	MW-001S		10 U	1600	10 U	10 U	10 U
	MW-002S		50 U	1400	50 U	95	50 U
	P-035S		2000	2100	67	50 U	50 U
	P-036S		10 U	280	10 U	10 U	10 U
	P-037S		10 U	330	10 U	10 U	10 U
	P-038S		1 U	1 U	1 U	1 U	1 U
In-River	SW-110		1 U	3	1 U	1 U	1 U
	SW-120		1 U	58	1 U	1 U	1 U
	SW-130		1 U	1 U	1 U	1 U	1 U
Capture	PW-110		1 U	42	38	1 U	4
	PW-120		4200	3400	190	110	50 U
	PW-130		91	350	210	28	10 U

U = Nondetect with detection limit given

J = Estimated value

MPS Exceedance

## 6.0 DISCUSSION

The April 2001, Certificate of Analysis by R.I. Analytical is included in Appendix B. The cumulative results from 1996 to the present for 12 wells and 5 COC are included as Tables 3, 4, and 5 in Appendices C, D, and E respectively. The cumulative results of each COC are plotted as Time-Series graphs for a better perception of trends, if any, over the sampling history since the inception of the groundwater extraction system in September 1995. These plots are also found in the respective Appendices C, D, and E.

Comprehensive trends in concentration are not apparent at the 6 bulkhead wells (Appendix D). However, as mentioned in Section 5.2, bulkhead well P-035S where the COC 1,2-dichlorobenzene and chlorobenzene exceed the MPS, concentrations are presently decreasing since April 2000. A similar decrease is observed at well MW-002S that is located approximately 50 feet southwest of P-035S.

The 3 In-River wells (Appendix E) are generally low to non-detect for contamination. Questionable data that showed contamination at two of the wells from the previous (September 2000) sampling episode were not confirmed and will be considered outliers and discounted in future discussions.

## 7.0 CONCLUSION

Groundwater quality in the former production area has improved over time. Groundwater quality as measured by an exceedance of the Media Protection Standards of the selected COC remains under pressure due to the presence of 1,2-dichlorobenzene and chlorobenzene. The latest sampling episode identified one well to have contamination that exceeds the standards.

Ciba has established hydraulic control at the Facility by capturing contaminated groundwater passing by the bulkhead to the Pawtuxet River using 3 capture wells. This capture can be viewed in Figure 2, Appendix A. Ciba plans to upgrade the capture well piping and perform pump maintenance in June 2001, these measures are expected to improve capacity of the overall extraction system.

The next well sampling is scheduled for September 2001.

**APPENDIX A**  
**TABULATED**  
**GROUNDWATER ELEVATION DATA**  
**AND**  
**POTENTIOMETRIC CONTOURS**

**CIBA SPECIALTY CHEMICALS CORPORATION**  
**(FORMERLY CIBA-GEIGY CORPORATION)**  
**180 MILL STREET**  
**CRANSTON, RI**

**GROUNDWATER MONITORING**

April 17, 2001

September 30, 1993

MONITORING WELL	TOC MSL FEET	TOC TO WATER FEET	GW ELEVATION MSL FEET	GW ELEVATION MSL FEET
PW-110	15.72	22.50	-6.78	NA
PW-120	14.25	15.92	-1.67	NA
PW-130	16.59	20.85	-4.26	NA
MW-001S	15.04	6.61	8.43	9.39
MW-002S	14.46	5.52	8.94	9.21
MW-003S	16.61	6.68	9.93	7.96
MW-004S	21.29	9.55	11.74	10.72
MW-010S	22.62	9.86	12.76	11.34
MW-012S	22.54	10.22	12.32	10.54
MW-013S	18.44	7.85	10.59	9.83
MW-020S	21.94	8.98	12.96	11.53
MW-022S	16.87	5.85	11.02	9.63
MW-023S	20.71	10.00	10.71	9.41
MW-024S	21.04	8.48	12.56	10.89
MW-034S	18.85	7.01	11.84	10.4
P-001S	16.41	8.42	7.99	9.17
P-002S	13.85	5.31	8.54	8.38
P-003S	15.45	6.93	8.52	7.09
P-004S	19.92	7.31	12.61	11.07
P-005S	21.18	10.43	10.75	10.68
P-006S	23.62	11.51	12.11	10.39
P-034S	17.15	8.78	8.37	10.12
P-035S	15.32	7.40	7.92	8.51
P-036S	15.91	7.62	8.29	8.62
P-037S	15.69	8.70	6.99	8.96
P-038S	16.19	6.71	9.48	8.74

NA - Not Available

## WELL LOCATION MAP

### CIBA SPECIALTY CHEMICALS CORPORATION (FORMERLY CIBA-GEIGY CORPORATION) CRANSTON, RI FACILITY FORMER PRODUCTION AREA

#### Chemical Well Monitoring Network

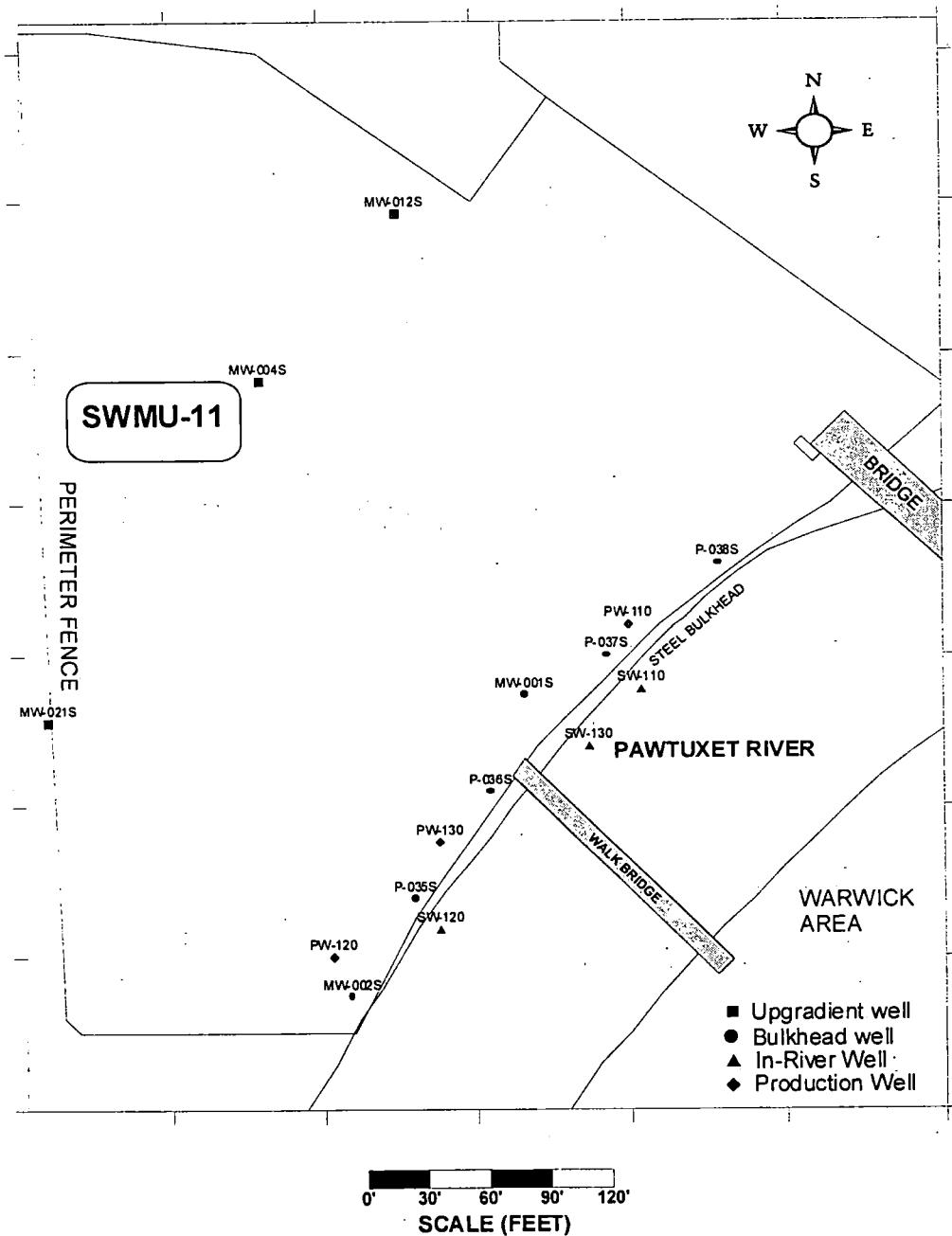
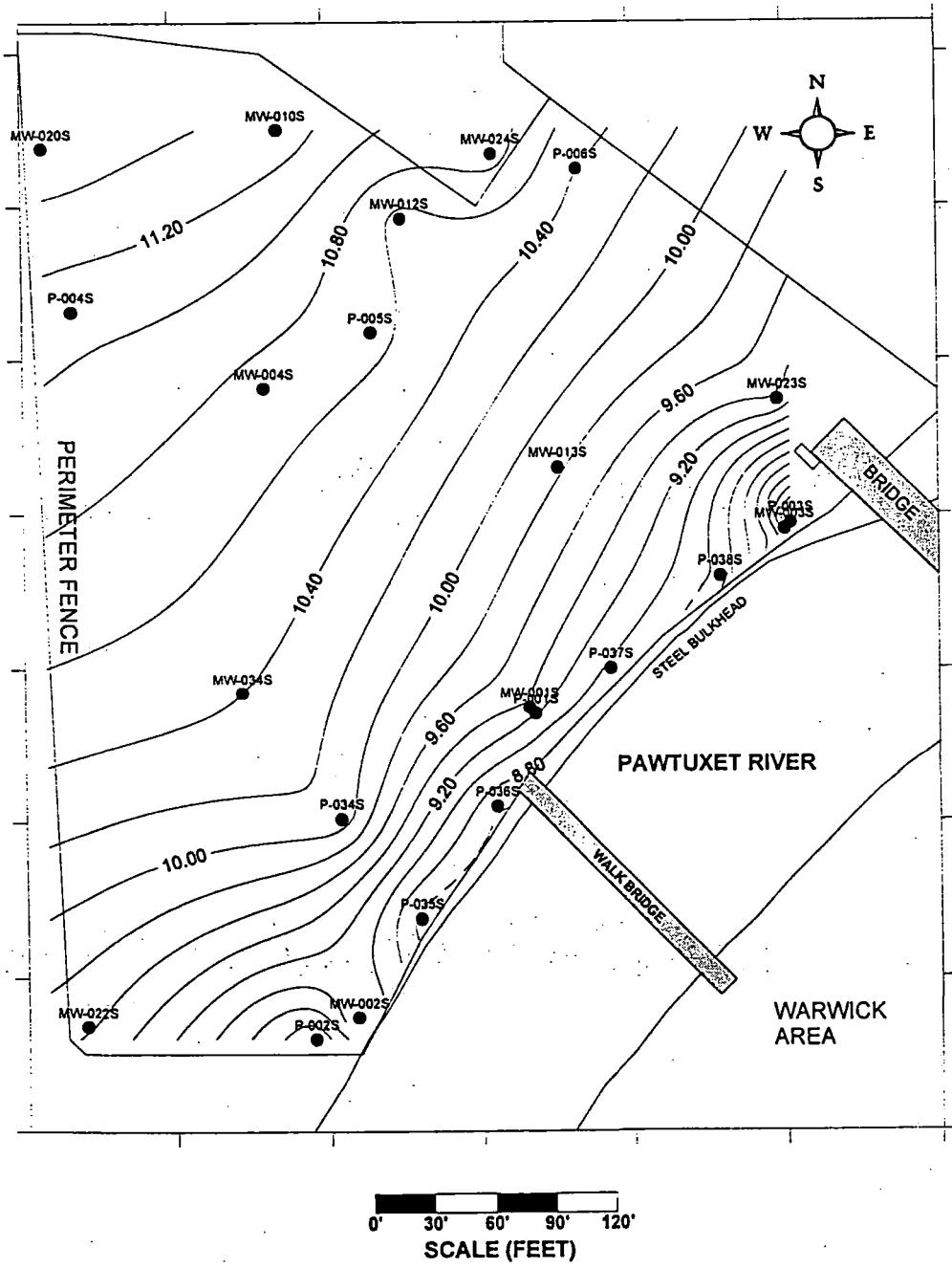


Figure 1

CIBA SPECIALTY CHEMICALS CORPORATION  
CRANSTON, RI FACILITY  
FORMER PRODUCTION AREA

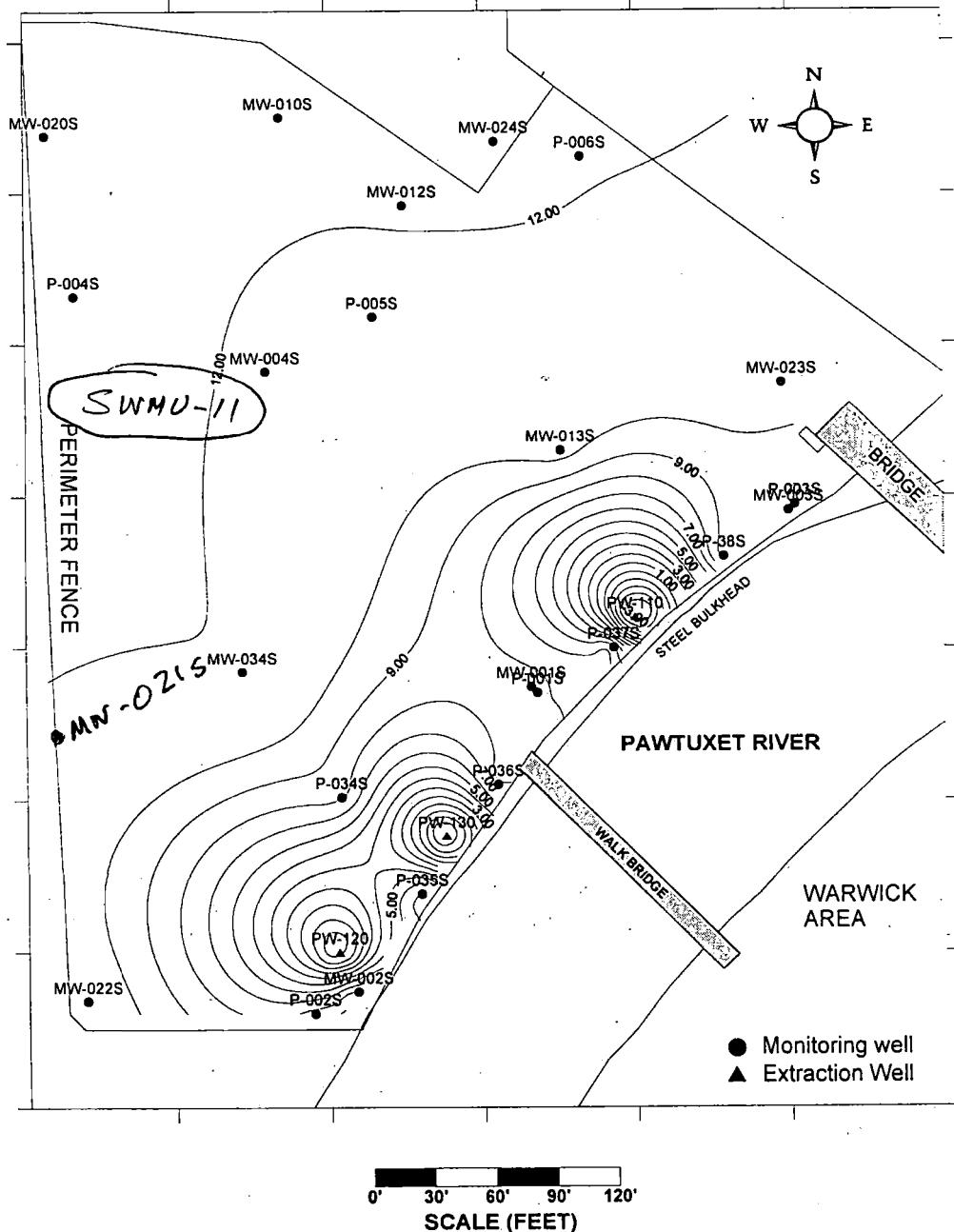
Pre-Pump & Treat Potentiometric Surface Map  
September 30, 1993



**Figure 2**

**CIBA SPECIALTY CHEMICALS CORPORATION  
CRANSTON, RI FACILITY  
FORMER PRODUCTION AREA**

Potentiometric Surface Map  
April 17, 2001



**APPENDIX B**

**CERTIFICATE OF ANALYSIS**

**R. I. ANALYTICAL**



# R.I. Analytical

Specialists in Environmental Services

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.  
Attn: Mr. Barry Cohen  
Environmental Building #743  
Route 37 West  
Toms River, NJ 08754

Date Received: 4/19/01  
Date Reported: 5/07/01  
P.O. #: t0091717  
Work Order #: 0104-04327

---

**DESCRIPTION:** CIBA GEIGY ON MILL STREET (SAMPLED BY RIAL PERSONNEL)

---

Subject sample(s) has/have been analyzed by our laboratory with the attached results.

Reference: All parameters were analyzed by U.S. EPA approved methodologies. The specific methodologies are listed in the methods column of the Certificate Of Analysis.

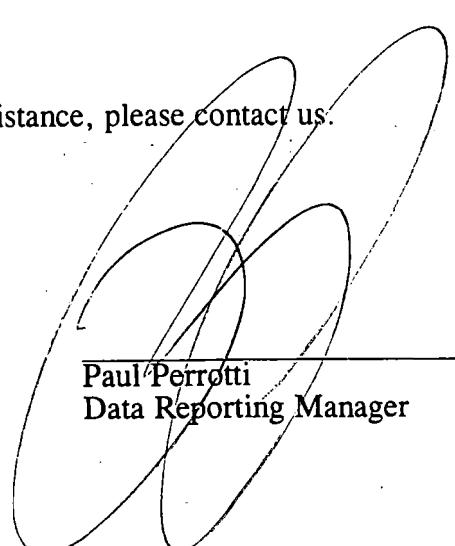
Certification #: RI-033, MA-RI015, CT-PH-0508, ME-RI015  
NH-253700 A & B, USDA S-41844, NY-11726

If you have any questions regarding this work, or if we may be of further assistance, please contact us.

Approved by:

  
Michael J. Hobin  
QA/QC Coordinator

enc: Chain of Custody

  
Paul Perrotti  
Data Reporting Manager

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 001

SAMPLE DESCRIPTION: MW-02S GRAB 04/18/01 @0905

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.8		SU	EPA 150.1	4/18/01 9:05	BSC
TEMPERATURE (field)	46.3		F	EPA 170.1	4/18/01 9:05	BSC
SPECIFIC CONDUCTANCE	330	1	µMHOS/CM	EPA 120.1	4/18/01 9:05	BSC
Dissolved Oxygen	2.0	1.0	mg/l	EPA 360.1	4/18/01 9:05	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	<500	500	ug/l	8260	5/01/01 1:22	JL
bromomethane	<500	500	ug/l	8260	5/01/01 1:22	JL
vinyl chloride	60	50	ug/l	8260	5/01/01 1:22	JL
dichlorodifluoromethane	<500	500	ug/l	8260	5/01/01 1:22	JL
propane	<500	500	ug/l	8260	5/01/01 1:22	JL
ethylene chloride	<300	300	ug/l	8260	5/01/01 1:22	JL
trichlorofluoromethane	<50	50	ug/l	8260	5/01/01 1:22	JL
1,1-dichloroethylene	<50	50	ug/l	8260	5/01/01 1:22	JL
1,1-dichloroethane	<50	50	ug/l	8260	5/01/01 1:22	JL
trans-1,2-dichloroethylene	<50	50	ug/l	8260	5/01/01 1:22	JL
chloroform	<50	50	ug/l	8260	5/01/01 1:22	JL
1,2-dichloroethane	<50	50	ug/l	8260	5/01/01 1:22	JL
1,1,1-Trichloroethane	<50	50	ug/l	8260	5/01/01 1:22	JL
carbon tetrachloride	<50	50	ug/l	8260	5/01/01 1:22	JL
bromodichloromethane	<50	50	ug/l	8260	5/01/01 1:22	JL
1,2-dichloropropane	<50	50	ug/l	8260	5/01/01 1:22	JL
cis-1,3-dichloropropylene	<50	50	ug/l	8260	5/01/01 1:22	JL
trichloroethylene	<50	50	ug/l	8260	5/01/01 1:22	JL
trans-1,3-dichloropropylene	<50	50	ug/l	8260	5/01/01 1:22	JL
1,1,2-Trichloroethane	<50	50	ug/l	8260	5/01/01 1:22	JL
Dibromochloromethane	<50	50	ug/l	8260	5/01/01 1:22	JL
Bromoform	<50	50	ug/l	8260	5/01/01 1:22	JL
Tetrachloroethylene	<50	50	ug/l	8260	5/01/01 1:22	JL
1,1,2,2-Tetrachloroethane	<50	50	ug/l	8260	5/01/01 1:22	JL
Chlorobenzene	1400	50	ug/l	8260	5/01/01 1:22	JL
2-chloroethyl vinyl ether	<100	100	ug/l	8260	5/01/01 1:22	JL
benzene	<50	50	ug/l	8260	5/01/01 1:22	JL
toluene	95	50	ug/l	8260	5/01/01 1:22	JL
ethylbenzene	<50	50	ug/l	8260	5/01/01 1:22	JL
benzenes(Total)	<50	50	ug/l	8260	5/01/01 1:22	JL
acetone	<500	500	ug/l	8260	5/01/01 1:22	JL
carbon disulfide	<300	300	ug/l	8260	5/01/01 1:22	JL
2-butanone(MEK)	<500	500	ug/l	8260	5/01/01 1:22	JL
vinyl acetate	<2500	2500	ug/l	8260	5/01/01 1:22	JL

R.I. Analytical Laboratories, Inc.

**CERTIFICATE OF ANALYSIS**

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 001

MW-02S GRAB 04/18/01 @0905

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<2500	2500	ug/l	8260	5/01/01 1:22	JL
2-hexanone	<2500	2500	ug/l	8260	5/01/01 1:22	JL
Styrene	<50	50	ug/l	8260	5/01/01 1:22	JL
o-chlorotoluene	<50	50	ug/l	8260	5/01/01 1:22	JL
1,2-Dichlorobenzene	<50	50	ug/l	8260	5/01/01 1:22	JL
1,3-Dichlorobenzene	<50	50	ug/l	8260	5/01/01 1:22	JL
1,4-Dichlorobenzene	<50	50	ug/l	8260	5/01/01 1:22	JL
Surrogates		RANGE		8260	5/01/01 1:22	JL
Dibromofluoromethane	99		86-118%	8260	5/01/01 1:22	JL
4-Bromofluorobenzene	102		86-115%	8260	5/01/01 1:22	JL
ene-D8	99		88-110%	8260	5/01/01 1:22	JL

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.  
 Date Received: 4/19/01  
 Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 002

SAMPLE DESCRIPTION: PUMP HOUSE 120 GRAB 04/18/01 @0925

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.7		SU	EPA 150.1	4/18/01 9:25	BSC
TEMPERATURE (field)	52.8		F	EPA 170.1	4/18/01 9:25	BSC
SPECIFIC CONDUCTANCE	425	1	µMHOS/CM	EPA 120.1	4/18/01 9:25	BSC
Dissolved Oxygen	1.8	1.0	mg/l	EPA 360.1	4/18/01 9:25	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	< 500	500	ug/l	8260	5/01/01 1:56	JL
bromomethane	< 500	500	ug/l	8260	5/01/01 1:56	JL
vinyl chloride	91	50	ug/l	8260	5/01/01 1:56	JL
dichlorodifluoromethane	< 500	500	ug/l	8260	5/01/01 1:56	JL
propane	< 500	500	ug/l	8260	5/01/01 1:56	JL
methylene chloride	< 300	300	ug/l	8260	5/01/01 1:56	JL
trichlorofluoromethane	< 50	50	ug/l	8260	5/01/01 1:56	JL
1,1-dichloroethylene	< 50	50	ug/l	8260	5/01/01 1:56	JL
1,1-dichloroethane	< 50	50	ug/l	8260	5/01/01 1:56	JL
trans-1,2-dichloroethylene	< 50	50	ug/l	8260	5/01/01 1:56	JL
chloroform	< 50	50	ug/l	8260	5/01/01 1:56	JL
1,2-dichloroethane	< 50	50	ug/l	8260	5/01/01 1:56	JL
1,1,1-Trichloroethane	< 50	50	ug/l	8260	5/01/01 1:56	JL
carbon tetrachloride	< 50	50	ug/l	8260	5/01/01 1:56	JL
bromodichloromethane	< 50	50	ug/l	8260	5/01/01 1:56	JL
1,2-dichloropropane	< 50	50	ug/l	8260	5/01/01 1:56	JL
cis-1,3-dichloropropylene	< 50	50	ug/l	8260	5/01/01 1:56	JL
trichloroethylene	130	50	ug/l	8260	5/01/01 1:56	JL
trans-1,3-dichloropropylene	< 50	50	ug/l	8260	5/01/01 1:56	JL
1,1,2-Trichloroethane	< 50	50	ug/l	8260	5/01/01 1:56	JL
Dibromo-chloromethane	< 50	50	ug/l	8260	5/01/01 1:56	JL
Bromoform	< 50	50	ug/l	8260	5/01/01 1:56	JL
Tetrachloroethylene	210	50	ug/l	8260	5/01/01 1:56	JL
1,1,2,2-Tetrachloroethane	< 50	50	ug/l	8260	5/01/01 1:56	JL
Chlorobenzene	3400	50	ug/l	8260	5/01/01 1:56	JL
2-chloroethyl vinyl ether	< 100	100	ug/l	8260	5/01/01 1:56	JL
benzene	< 50	50	ug/l	8260	5/01/01 1:56	JL
toluene	110	50	ug/l	8260	5/01/01 1:56	JL
ethylbenzene	< 50	50	ug/l	8260	5/01/01 1:56	JL
olefins(Total)	< 50	50	ug/l	8260	5/01/01 1:56	JL
acetone	< 500	500	ug/l	8260	5/01/01 1:56	JL
carbon disulfide	< 300	300	ug/l	8260	5/01/01 1:56	JL
2-butanone(MEK)	< 500	500	ug/l	8260	5/01/01 1:56	JL
vinyl acetate	< 2500	2500	ug/l	8260	5/01/01 1:56	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 002

PUMP HOUSE 120 GRAB 04/18/01 @0925

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<2500	2500	ug/l	8260	5/01/01 1:56	JL
2-hexanone	<2500	2500	ug/l	8260	5/01/01 1:56	JL
Styrene	<50	50	ug/l	8260	5/01/01 1:56	JL
o-chlorotoluene	190	50	ug/l	8260	5/01/01 1:56	JL
1,2-Dichlorobenzene	4200	50	ug/l	8260	5/01/01 1:56	JL
1,3-Dichlorobenzene	<50	50	ug/l	8260	5/01/01 1:56	JL
1,4-Dichlorobenzene	<50	50	ug/l	8260	5/01/01 1:56	JL
Surrogates		RANGE		8260	5/01/01 1:56	JL
Dibromofluoromethane	99		86-118%	8260	5/01/01 1:56	JL
4-Bromofluorobenzene	101		86-115%	8260	5/01/01 1:56	JL
ene-D8	100		88-110%	8260	5/01/01 1:56	JL

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 003

SAMPLE DESCRIPTION: P-035S GRAB 04/18/01 @0950

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.3		SU	EPA 150.1	4/18/01 9:50	BSC
TEMPERATURE (field)	45.1		F	EPA 170.1	4/18/01 9:50	BSC
SPECIFIC CONDUCTANCE	830	1	uMHOS/CM	EPA 120.1	4/18/01 9:50	BSC
Dissolved Oxygen	2.7	1.0	mg/l	EPA 360.1	4/18/01 9:50	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	<500	500	ug/l	8260	5/01/01 2:30	JL
bromomethane	<500	500	ug/l	8260	5/01/01 2:30	JL
vinyl chloride	78	50	ug/l	8260	5/01/01 2:30	JL
dichlorodifluoromethane	<500	500	ug/l	8260	5/01/01 2:30	JL
ethane	<500	500	ug/l	8260	5/01/01 2:30	JL
methylene chloride	<300	300	ug/l	8260	5/01/01 2:30	JL
trichlorofluoromethane	<50	50	ug/l	8260	5/01/01 2:30	JL
1,1-dichloroethylene	<50	50	ug/l	8260	5/01/01 2:30	JL
1,1-dichloroethane	<50	50	ug/l	8260	5/01/01 2:30	JL
trans-1,2-dichloroethylene	<50	50	ug/l	8260	5/01/01 2:30	JL
chloroform	<50	50	ug/l	8260	5/01/01 2:30	JL
1,2-dichloroethane	<50	50	ug/l	8260	5/01/01 2:30	JL
1,1,1-Trichloroethane	<50	50	ug/l	8260	5/01/01 2:30	JL
carbon tetrachloride	<50	50	ug/l	8260	5/01/01 2:30	JL
bromodichloromethane	<50	50	ug/l	8260	5/01/01 2:30	JL
1,2-dichloropropane	<50	50	ug/l	8260	5/01/01 2:30	JL
cis-1,3-dichloropropylene	<50	50	ug/l	8260	5/01/01 2:30	JL
trichloroethylene	<50	50	ug/l	8260	5/01/01 2:30	JL
trans-1,3-dichloropropylene	<50	50	ug/l	8260	5/01/01 2:30	JL
1,1,2-Trichloroethane	<50	50	ug/l	8260	5/01/01 2:30	JL
Dibromochloromethane	<50	50	ug/l	8260	5/01/01 2:30	JL
Bromoform	<50	50	ug/l	8260	5/01/01 2:30	JL
Tetrachloroethylene	<50	50	ug/l	8260	5/01/01 2:30	JL
1,1,2,2-Tetrachloroethane	<50	50	ug/l	8260	5/01/01 2:30	JL
Chlorobenzene	2100	50	ug/l	8260	5/01/01 2:30	JL
2-chloroethyl vinyl ether	<100	100	ug/l	8260	5/01/01 2:30	JL
benzene	<50	50	ug/l	8260	5/01/01 2:30	JL
toluene	<50	50	ug/l	8260	5/01/01 2:30	JL
ethylbenzene	<50	50	ug/l	8260	5/01/01 2:30	JL
benzenes(Total)	<50	50	ug/l	8260	5/01/01 2:30	JL
cetone	<500	500	ug/l	8260	5/01/01 2:30	JL
carbon disulfide	<300	300	ug/l	8260	5/01/01 2:30	JL
2-butanone(MEK)	<500	500	ug/l	8260	5/01/01 2:30	JL
vinyl acetate	<2500	2500	ug/l	8260	5/01/01 2:30	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 003

P-035S GRAB 04/18/01 @0950

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<2500	2500	ug/l	8260	5/01/01 2:30	JL
2-hexanone	<2500	2500	ug/l	8260	5/01/01 2:30	JL
Styrene	<50	50	ug/l	8260	5/01/01 2:30	JL
o-chlorotoluene	67	50	ug/l	8260	5/01/01 2:30	JL
1,2-Dichlorobenzene	2000	50	ug/l	8260	5/01/01 2:30	JL
1,3-Dichlorobenzene	<50	50	ug/l	8260	5/01/01 2:30	JL
1,4-Dichlorobenzene	<50	50	ug/l	8260	5/01/01 2:30	JL
Surrogates		RANGE		8260	5/01/01 2:30	JL
Dibromofluoromethane	98		86-118%	8260	5/01/01 2:30	JL
4-Bromofluorobenzene	101		86-115%	8260	5/01/01 2:30	JL
Toluene-D8	99		88-110%	8260	5/01/01 2:30	JL

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 004

SAMPLE DESCRIPTION: SW-120 GRAB 04/18/01 @1006

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.0		SU	EPA 150.1	4/18/01 10:06	BSC
TEMPERATURE (field)	49.1		F	EPA 170.1	4/18/01 10:06	BSC
SPECIFIC CONDUCTANCE	329	1	µMHOS/CM	EPA 120.1	4/18/01 10:06	BSC
Dissolved Oxygen	1.9	1.0	mg/l	EPA 360.1	4/18/01 10:06	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	<10	10	ug/l	8260	4/30/01 20:42	JL
bromomethane	<10	10	ug/l	8260	4/30/01 20:42	JL
vinyl chloride	6	1	ug/l	8260	4/30/01 20:42	JL
dichlorodifluoromethane	<10	10	ug/l	8260	4/30/01 20:42	JL
propane	<10	10	ug/l	8260	4/30/01 20:42	JL
ethylene chloride	<5	5	ug/l	8260	4/30/01 20:42	JL
trichlorofluoromethane	<1	1	ug/l	8260	4/30/01 20:42	JL
1,1-dichloroethylene	<1	1	ug/l	8260	4/30/01 20:42	JL
1,1-dichloroethane	<1	1	ug/l	8260	4/30/01 20:42	JL
trans-1,2-dichloroethylene	<1	1	ug/l	8260	4/30/01 20:42	JL
chloroform	<1	1	ug/l	8260	4/30/01 20:42	JL
1,2-dichloroethane	<1	1	ug/l	8260	4/30/01 20:42	JL
1,1,1-Trichloroethane	<1	1	ug/l	8260	4/30/01 20:42	JL
carbon tetrachloride	<1	1	ug/l	8260	4/30/01 20:42	JL
bromodichloromethane	<1	1	ug/l	8260	4/30/01 20:42	JL
1,2-dichloropropane	<1	1	ug/l	8260	4/30/01 20:42	JL
cis-1,3-dichloropropylene	<1	1	ug/l	8260	4/30/01 20:42	JL
trichloroethylene	<1	1	ug/l	8260	4/30/01 20:42	JL
trans-1,3-dichloropropylene	<1	1	ug/l	8260	4/30/01 20:42	JL
1,1,2-Trichloroethane	<1	1	ug/l	8260	4/30/01 20:42	JL
Dibromochloromethane	<1	1	ug/l	8260	4/30/01 20:42	JL
Bromoform	<1	1	ug/l	8260	4/30/01 20:42	JL
Tetrachloroethylene	<1	1	ug/l	8260	4/30/01 20:42	JL
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	4/30/01 20:42	JL
Chlorobenzene	58	1	ug/l	8260	4/30/01 20:42	JL
2-chloroethyl vinyl ether	<2	2	ug/l	8260	4/30/01 20:42	JL
benzene	1	1	ug/l	8260	4/30/01 20:42	JL
toluene	<1	1	ug/l	8260	4/30/01 20:42	JL
ethylbenzene	<1	1	ug/l	8260	4/30/01 20:42	JL
olefins(Total)	<1	1	ug/l	8260	4/30/01 20:42	JL
acetone	<10	10	ug/l	8260	4/30/01 20:42	JL
carbon disulfide	<5	5	ug/l	8260	4/30/01 20:42	JL
2-butanone(MEK)	<10	10	ug/l	8260	4/30/01 20:42	JL
vinyl acetate	<50	50	ug/l	8260	4/30/01 20:42	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 004

SW-120 GRAB 04/18/01 @1006

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	4/30/01 20:42	JL
2-hexanone	<50	50	ug/l	8260	4/30/01 20:42	JL
Styrene	<1	1	ug/l	8260	4/30/01 20:42	JL
o-chlorotoluene	<1	1	ug/l	8260	4/30/01 20:42	JL
1,2-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 20:42	JL
1,3-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 20:42	JL
1,4-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 20:42	JL
Surrogates		RANGE		8260	4/30/01 20:42	JL
Dibromofluoromethane	98		86-118%	8260	4/30/01 20:42	JL
4-Bromofluorobenzene	100		86-115%	8260	4/30/01 20:42	JL
benzene-D8	99		88-110%	8260	4/30/01 20:42	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 005

SAMPLE DESCRIPTION: PUMP HOUSE 130 GRAB 04/18/01 @1025

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.0		SU	EPA 150.1	4/18/01 10:25	BSC
TEMPERATURE (field)	51.4		F	EPA 170.1	4/18/01 10:25	BSC
SPECIFIC CONDUCTANCE	386	1	µMHOS/CM	EPA 120.1	4/18/01 10:25	BSC
Dissolved Oxygen	2.1	1.0	mg/l	EPA 360.1	4/18/01 10:25	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	<100	100	ug/l	8260	5/02/01 11:43	JL
bromomethane	<100	100	ug/l	8260	5/02/01 11:43	JL
vinyl chloride	<10	10	ug/l	8260	5/02/01 11:43	JL
dichlorodifluoromethane	<100	100	ug/l	8260	5/02/01 11:43	JL
methane	<100	100	ug/l	8260	5/02/01 11:43	JL
methylene chloride	<50	50	ug/l	8260	5/02/01 11:43	JL
trichlorofluoromethane	<10	10	ug/l	8260	5/02/01 11:43	JL
1,1-dichloroethylene	<10	10	ug/l	8260	5/02/01 11:43	JL
1,1-dichloroethane	<10	10	ug/l	8260	5/02/01 11:43	JL
trans-1,2-dichloroethylene	<10	10	ug/l	8260	5/02/01 11:43	JL
chloroform	<10	10	ug/l	8260	5/02/01 11:43	JL
1,2-dichloroethane	<10	10	ug/l	8260	5/02/01 11:43	JL
1,1,1-Trichloroethane	<10	10	ug/l	8260	5/02/01 11:43	JL
carbon tetrachloride	<10	10	ug/l	8260	5/02/01 11:43	JL
bromodichloromethane	<10	10	ug/l	8260	5/02/01 11:43	JL
1,2-dichloropropane	<10	10	ug/l	8260	5/02/01 11:43	JL
cis-1,3-dichloropropylene	<10	10	ug/l	8260	5/02/01 11:43	JL
trichloroethylene	<10	10	ug/l	8260	5/02/01 11:43	JL
trans-1,3-dichloropropylene	<10	10	ug/l	8260	5/02/01 11:43	JL
1,1,2-Trichloroethane	<10	10	ug/l	8260	5/02/01 11:43	JL
Dibromochloromethane	<10	10	ug/l	8260	5/02/01 11:43	JL
Bromoform	<10	10	ug/l	8260	5/02/01 11:43	JL
Tetrachloroethylene	<10	10	ug/l	8260	5/02/01 11:43	JL
1,1,2,2-Tetrachloroethane	<10	10	ug/l	8260	5/02/01 11:43	JL
Chlorobenzene	350	10	ug/l	8260	5/02/01 11:43	JL
2-chloroethyl vinyl ether	<20	20	ug/l	8260	5/02/01 11:43	JL
benzene	13	10	ug/l	8260	5/02/01 11:43	JL
toluene	28	10	ug/l	8260	5/02/01 11:43	JL
ethylbenzene	<10	10	ug/l	8260	5/02/01 11:43	JL
benzenes(Total)	<10	10	ug/l	8260	5/02/01 11:43	JL
acetone	<100	100	ug/l	8260	5/02/01 11:43	JL
carbon disulfide	<50	50	ug/l	8260	5/02/01 11:43	JL
2-butanone(MEK)	<100	100	ug/l	8260	5/02/01 11:43	JL
vinyl acetate	<500	500	ug/l	8260	5/02/01 11:43	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.  
 Date Received: 4/19/01  
 Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 005

PUMP HOUSE 130 GRAB 04/18/01 @1025

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	< 500	500	ug/l	8260	5/02/01 11:43	JL
2-hexanone	< 500	500	ug/l	8260	5/02/01 11:43	JL
Styrene	<10	10	ug/l	8260	5/02/01 11:43	JL
o-chlorotoluene	210	10	ug/l	8260	5/02/01 11:43	JL
1,2-Dichlorobenzene	91	10	ug/l	8260	5/02/01 11:43	JL
1,3-Dichlorobenzene	<10	10	ug/l	8260	5/02/01 11:43	JL
1,4-Dichlorobenzene	<10	10	ug/l	8260	5/02/01 11:43	JL
Surrogates		RANGE		8260	5/02/01 11:43	JL
Dibromofluoromethane	103		86-118%	8260	5/02/01 11:43	JL
4-Bromofluorobenzene	95		86-115%	8260	5/02/01 11:43	JL
Toluene-D8	101		88-110%	8260	5/02/01 11:43	JL

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 006

SAMPLE DESCRIPTION: MW-12S GRAB 04/18/01 @1140

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.9		SU	EPA 150.1	4/18/01 11:40	BSC
TEMPERATURE (field)	48.0		F	EPA 170.1	4/18/01 11:40	BSC
SPECIFIC CONDUCTANCE	372	1	uMHOS/CM	EPA 120.1	4/18/01 11:40	BSC
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	4/18/01 11:40	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	<10	10	ug/l	8260	4/30/01 20:07	JL
bromomethane	<10	10	ug/l	8260	4/30/01 20:07	JL
vinyl chloride	<1	1	ug/l	8260	4/30/01 20:07	JL
dichlorodifluoromethane	<10	10	ug/l	8260	4/30/01 20:07	JL
propane	<10	10	ug/l	8260	4/30/01 20:07	JL
methylene chloride	<5	5	ug/l	8260	4/30/01 20:07	JL
trichlorofluoromethane	<1	1	ug/l	8260	4/30/01 20:07	JL
1,1-dichloroethylene	<1	1	ug/l	8260	4/30/01 20:07	JL
1,1-dichloroethane	<1	1	ug/l	8260	4/30/01 20:07	JL
trans-1,2-dichloroethylene	<1	1	ug/l	8260	4/30/01 20:07	JL
chloroform	<1	1	ug/l	8260	4/30/01 20:07	JL
1,2-dichloroethane	<1	1	ug/l	8260	4/30/01 20:07	JL
1,1,1-Trichloroethane	<1	1	ug/l	8260	4/30/01 20:07	JL
carbon tetrachloride	<1	1	ug/l	8260	4/30/01 20:07	JL
bromodichloromethane	<1	1	ug/l	8260	4/30/01 20:07	JL
1,2-dichloropropane	<1	1	ug/l	8260	4/30/01 20:07	JL
cis-1,3-dichloropropylene	<1	1	ug/l	8260	4/30/01 20:07	JL
trichloroethylene	<1	1	ug/l	8260	4/30/01 20:07	JL
trans-1,3-dichloropropylene	<1	1	ug/l	8260	4/30/01 20:07	JL
1,1,2-Trichloroethane	<1	1	ug/l	8260	4/30/01 20:07	JL
Dibromochloromethane	<1	1	ug/l	8260	4/30/01 20:07	JL
Bromoform	<1	1	ug/l	8260	4/30/01 20:07	JL
Tetrachloroethylene	<1	1	ug/l	8260	4/30/01 20:07	JL
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	4/30/01 20:07	JL
Chlorobenzene	<1	1	ug/l	8260	4/30/01 20:07	JL
2-chloroethyl vinyl ether	<2	2	ug/l	8260	4/30/01 20:07	JL
benzene	<1	1	ug/l	8260	4/30/01 20:07	JL
toluene	<1	1	ug/l	8260	4/30/01 20:07	JL
ethylbenzene	5	1	ug/l	8260	4/30/01 20:07	JL
olefins(Total)	25	1	ug/l	8260	4/30/01 20:07	JL
acetone	<10	10	ug/l	8260	4/30/01 20:07	JL
carbon disulfide	<5	5	ug/l	8260	4/30/01 20:07	JL
2-butanone(MEK)	<10	10	ug/l	8260	4/30/01 20:07	JL
vinyl acetate	<50	50	ug/l	8260	4/30/01 20:07	JL

R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 006

MW-12S GRAB 04/18/01 @1140

PARAMETER	SAMPLE	DET.	METHOD	ANALYZED		ANALYST
	RESULTS	LIMIT		DATE/TIME		
4-methyl-2-pentanone(MIBK)	<50	50	8260	4/30/01 20:07		JL
2-hexanone	<50	50	8260	4/30/01 20:07		JL
Styrene	<1	1	8260	4/30/01 20:07		JL
o-chlorotoluene	<1	1	8260	4/30/01 20:07		JL
1,2-Dichlorobenzene	<1	1	8260	4/30/01 20:07		JL
1,3-Dichlorobenzene	<1	1	8260	4/30/01 20:07		JL
1,4-Dichlorobenzene	<1	1	8260	4/30/01 20:07		JL
Surrogates		RANGE	8260	4/30/01 20:07		JL
Dibromofluoromethane	98	86-118%	8260	4/30/01 20:07		JL
4-Bromofluorobenzene	102	86-115%	8260	4/30/01 20:07		JL
ene-D8	100	88-110%	8260	4/30/01 20:07		JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.  
 Date Received: 4/19/01  
 Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 007

SAMPLE DESCRIPTION: P-36S GRAB 04/18/01 @1210

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.3		SU	EPA 150.1	4/18/01 12:10	BSC
TEMPERATURE (field)	45.0		F	EPA 170.1	4/18/01 12:10	BSC
SPECIFIC CONDUCTANCE	568	1	uMHOS/CM	EPA 120.1	4/18/01 12:10	BSC
Dissolved Oxygen	1.6	1.0	mg/l	EPA 360.1	4/18/01 12:10	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	<100	100	ug/l	8260	4/30/01 21:17	JL
bromomethane	<100	100	ug/l	8260	4/30/01 21:17	JL
vinyl chloride	<10	10	ug/l	8260	4/30/01 21:17	JL
dichlorodifluoromethane	<100	100	ug/l	8260	4/30/01 21:17	JL
propane	<100	100	ug/l	8260	4/30/01 21:17	JL
ethylene chloride	<50	50	ug/l	8260	4/30/01 21:17	JL
trichlorofluoromethane	<10	10	ug/l	8260	4/30/01 21:17	JL
1,1-dichloroethylene	<10	10	ug/l	8260	4/30/01 21:17	JL
1,1-dichloroethane	<10	10	ug/l	8260	4/30/01 21:17	JL
trans-1,2-dichloroethylene	<10	10	ug/l	8260	4/30/01 21:17	JL
chloroform	<10	10	ug/l	8260	4/30/01 21:17	JL
1,2-dichloroethane	<10	10	ug/l	8260	4/30/01 21:17	JL
1,1,1-Trichloroethane	<10	10	ug/l	8260	4/30/01 21:17	JL
carbon tetrachloride	<10	10	ug/l	8260	4/30/01 21:17	JL
bromodichloromethane	<10	10	ug/l	8260	4/30/01 21:17	JL
1,2-dichloropropane	<10	10	ug/l	8260	4/30/01 21:17	JL
cis-1,3-dichloropropylene	<10	10	ug/l	8260	4/30/01 21:17	JL
trichloroethylene	<10	10	ug/l	8260	4/30/01 21:17	JL
trans-1,3-dichloropropylene	<10	10	ug/l	8260	4/30/01 21:17	JL
1,1,2-Trichloroethane	<10	10	ug/l	8260	4/30/01 21:17	JL
Dibromochloromethane	<10	10	ug/l	8260	4/30/01 21:17	JL
Bromoform	<10	10	ug/l	8260	4/30/01 21:17	JL
Tetrachloroethylene	<10	10	ug/l	8260	4/30/01 21:17	JL
1,1,2,2-Tetrachloroethane	<10	10	ug/l	8260	4/30/01 21:17	JL
Chlorobenzene	280	10	ug/l	8260	4/30/01 21:17	JL
2-chloroethyl vinyl ether	<20	20	ug/l	8260	4/30/01 21:17	JL
benzene	<10	10	ug/l	8260	4/30/01 21:17	JL
toluene	<10	10	ug/l	8260	4/30/01 21:17	JL
ethylbenzene	<10	10	ug/l	8260	4/30/01 21:17	JL
enes(Total)	<10	10	ug/l	8260	4/30/01 21:17	JL
acetone	<100	100	ug/l	8260	4/30/01 21:17	JL
carbon disulfide	<50	50	ug/l	8260	4/30/01 21:17	JL
2-butanone(MEK)	<100	100	ug/l	8260	4/30/01 21:17	JL
vinyl acetate	<500	500	ug/l	8260	4/30/01 21:17	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 007

P-36S GRAB 04/18/01 @1210

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<500	500	ug/l	8260	4/30/01 21:17	JL
2-hexanone	<500	500	ug/l	8260	4/30/01 21:17	JL
Styrene	<10	10	ug/l	8260	4/30/01 21:17	JL
o-chlorotoluene	<10	10	ug/l	8260	4/30/01 21:17	JL
1,2-Dichlorobenzene	<10	10	ug/l	8260	4/30/01 21:17	JL
1,3-Dichlorobenzene	<10	10	ug/l	8260	4/30/01 21:17	JL
1,4-Dichlorobenzene	<10	10	ug/l	8260	4/30/01 21:17	JL
Surrogates		RANGE		8260	4/30/01 21:17	JL
Dibromofluoromethane	99		86-118%	8260	4/30/01 21:17	JL
4-Bromofluorobenzene	101		86-115%	8260	4/30/01 21:17	JL
Toluene-D8	100		88-110%	8260	4/30/01 21:17	JL

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 008

SAMPLE DESCRIPTION: PUMP HOUSE 110 GRAB 04/18/01 @1310

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.8		SU	EPA 150.1	4/18/01 13:10	BSC
TEMPERATURE (field)	52.3		F	EPA 170.1	4/18/01 13:10	BSC
SPECIFIC CONDUCTANCE	340	1	uMHOS/CM	EPA 120.1	4/18/01 13:10	BSC
Dissolved Oxygen	1.6	1.0	mg/l	EPA 360.1	4/18/01 13:10	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	<10	10	ug/l	8260	5/01/01 11:37	JL
bromomethane	<10	10	ug/l	8260	5/01/01 11:37	JL
vinyl chloride	<1	1	ug/l	8260	5/01/01 11:37	JL
dichlorodifluoromethane	<10	10	ug/l	8260	5/01/01 11:37	JL
ethane	<10	10	ug/l	8260	5/01/01 11:37	JL
methylene chloride	<5	5	ug/l	8260	5/01/01 11:37	JL
trichlorofluoromethane	<1	1	ug/l	8260	5/01/01 11:37	JL
1,1-dichloroethylene	<1	1	ug/l	8260	5/01/01 11:37	JL
1,1-dichloroethane	<1	1	ug/l	8260	5/01/01 11:37	JL
trans-1,2-dichloroethylene	<1	1	ug/l	8260	5/01/01 11:37	JL
chloroform	<1	1	ug/l	8260	5/01/01 11:37	JL
1,2-dichloroethane	<1	1	ug/l	8260	5/01/01 11:37	JL
1,1,1-Trichloroethane	<1	1	ug/l	8260	5/01/01 11:37	JL
carbon tetrachloride	<1	1	ug/l	8260	5/01/01 11:37	JL
bromodichloromethane	<1	1	ug/l	8260	5/01/01 11:37	JL
1,2-dichloropropane	<1	1	ug/l	8260	5/01/01 11:37	JL
cis-1,3-dichloropropylene	<1	1	ug/l	8260	5/01/01 11:37	JL
trichloroethylene	2	1	ug/l	8260	5/01/01 11:37	JL
trans-1,3-dichloropropylene	<1	1	ug/l	8260	5/01/01 11:37	JL
1,1,2-Trichloroethane	<1	1	ug/l	8260	5/01/01 11:37	JL
Dibromochloromethane	<1	1	ug/l	8260	5/01/01 11:37	JL
Bromoform	<1	1	ug/l	8260	5/01/01 11:37	JL
Tetrachloroethylene	1	1	ug/l	8260	5/01/01 11:37	JL
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	5/01/01 11:37	JL
Chlorobenzene	42	1	ug/l	8260	5/01/01 11:37	JL
2-chloroethyl vinyl ether	<2	2	ug/l	8260	5/01/01 11:37	JL
benzene	3	1	ug/l	8260	5/01/01 11:37	JL
toluene	<1	1	ug/l	8260	5/01/01 11:37	JL
ethylbenzene	<1	1	ug/l	8260	5/01/01 11:37	JL
oluenes(Total)	4	1	ug/l	8260	5/01/01 11:37	JL
acetone	<10	10	ug/l	8260	5/01/01 11:37	JL
carbon disulfide	<5	5	ug/l	8260	5/01/01 11:37	JL
2-butanone(MEK)	<10	10	ug/l	8260	5/01/01 11:37	JL
vinyl acetate	<50	50	ug/l	8260	5/01/01 11:37	JL

R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 008

PUMP HOUSE 110 GRAB 04/18/01 @1310

PARAMETER	SAMPLE	DET.	UNITS	METHOD	ANALYZED		ANALYST
	RESULTS	LIMIT			DATE/TIME		
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	5/01/01	11:37	JL
2-hexanone	<50	50	ug/l	8260	5/01/01	11:37	JL
Styrene	<1	1	ug/l	8260	5/01/01	11:37	JL
o-chlorotoluene	38	1	ug/l	8260	5/01/01	11:37	JL
1,2-Dichlorobenzene	<1	1	ug/l	8260	5/01/01	11:37	JL
1,3-Dichlorobenzene	<1	1	ug/l	8260	5/01/01	11:37	JL
1,4-Dichlorobenzene	<1	1	ug/l	8260	5/01/01	11:37	JL
Surrogates			RANGE	8260	5/01/01	11:37	JL
Dibromofluoromethane	106		86-118%	8260	5/01/01	11:37	JL
4-Bromofluorobenzene	95		86-115%	8260	5/01/01	11:37	JL
Toluene-D8	101		88-110%	8260	5/01/01	11:37	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 009

SAMPLE DESCRIPTION: MW-01S GRAB 04/18/01 @1320

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.0		SU	EPA 150.1	4/18/01 13:20	BSC
TEMPERATURE (field)	49.2		F	EPA 170.1	4/18/01 13:20	BSC
SPECIFIC CONDUCTANCE	490	1	µMHOS/CM	EPA 120.1	4/18/01 13:20	BSC
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	4/18/01 13:20	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	<100	100	ug/l	8260	4/30/01 23:38	JL
bromomethane	<100	100	ug/l	8260	4/30/01 23:38	JL
vinyl chloride	<10	10	ug/l	8260	4/30/01 23:38	JL
dichlorodifluoromethane	<100	100	ug/l	8260	4/30/01 23:38	JL
propane	<100	100	ug/l	8260	4/30/01 23:38	JL
methylene chloride	<50	50	ug/l	8260	4/30/01 23:38	JL
trichlorofluoromethane	<10	10	ug/l	8260	4/30/01 23:38	JL
1,1-dichloroethylene	<10	10	ug/l	8260	4/30/01 23:38	JL
1,1-dichloroethane	<10	10	ug/l	8260	4/30/01 23:38	JL
trans-1,2-dichloroethylene	<10	10	ug/l	8260	4/30/01 23:38	JL
chloroform	<10	10	ug/l	8260	4/30/01 23:38	JL
1,2-dichloroethane	<10	10	ug/l	8260	4/30/01 23:38	JL
1,1,1-Trichloroethane	<10	10	ug/l	8260	4/30/01 23:38	JL
carbon tetrachloride	<10	10	ug/l	8260	4/30/01 23:38	JL
bromodichloromethane	<10	10	ug/l	8260	4/30/01 23:38	JL
1,2-dichloropropane	<10	10	ug/l	8260	4/30/01 23:38	JL
cis-1,3-dichloropropylene	<10	10	ug/l	8260	4/30/01 23:38	JL
trichloroethylene	<10	10	ug/l	8260	4/30/01 23:38	JL
trans-1,3-dichloropropylene	<10	10	ug/l	8260	4/30/01 23:38	JL
1,1,2-Trichloroethane	<10	10	ug/l	8260	4/30/01 23:38	JL
Dibromochloromethane	<10	10	ug/l	8260	4/30/01 23:38	JL
Bromoform	<10	10	ug/l	8260	4/30/01 23:38	JL
Tetrachloroethylene	<10	10	ug/l	8260	4/30/01 23:38	JL
1,1,2,2-Tetrachloroethane	<10	10	ug/l	8260	4/30/01 23:38	JL
Chlorobenzene	1600	10	ug/l	8260	4/30/01 23:38	JL
2-chloroethyl vinyl ether	<20	20	ug/l	8260	4/30/01 23:38	JL
benzene	<10	10	ug/l	8260	4/30/01 23:38	JL
toluene	<10	10	ug/l	8260	4/30/01 23:38	JL
ethylbenzene	<10	10	ug/l	8260	4/30/01 23:38	JL
styrenes(Total)	<10	10	ug/l	8260	4/30/01 23:38	JL
acetone	<100	100	ug/l	8260	4/30/01 23:38	JL
carbon disulfide	<50	50	ug/l	8260	4/30/01 23:38	JL
2-butanone(MEK)	<100	100	ug/l	8260	4/30/01 23:38	JL
vinyl acetate	<500	500	ug/l	8260	4/30/01 23:38	JL

R.I. Analytical Laboratories, Inc.

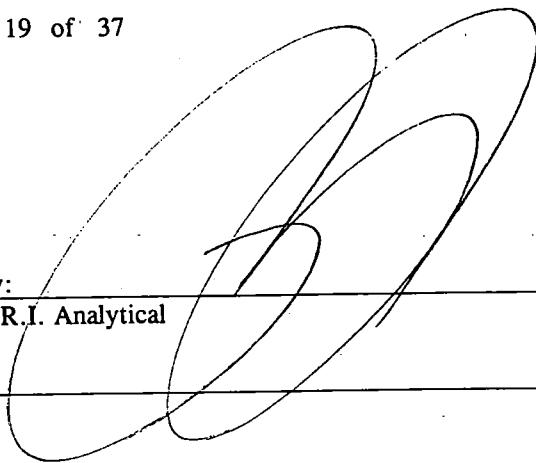
## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

  
R.I. Analytical

Sample #: 009

MW-01S GRAB 04/18/01 @1320

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	< 500	500	ug/l	8260	4/30/01 23:38	JL
2-hexanone	< 500	500	ug/l	8260	4/30/01 23:38	JL
Styrene	< 10	10	ug/l	8260	4/30/01 23:38	JL
o-chlorotoluene	< 10	10	ug/l	8260	4/30/01 23:38	JL
1,2-Dichlorobenzene	< 10	10	ug/l	8260	4/30/01 23:38	JL
1,3-Dichlorobenzene	< 10	10	ug/l	8260	4/30/01 23:38	JL
1,4-Dichlorobenzene	< 10	10	ug/l	8260	4/30/01 23:38	JL
Surrogates		RANGE		8260	4/30/01 23:38	JL
Dibromofluoromethane	98		86-118%	8260	4/30/01 23:38	JL
4-Bromofluorobenzene	99		86-115%	8260	4/30/01 23:38	JL
luene-D8	99		88-110%	8260	4/30/01 23:38	JL

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 010

SAMPLE DESCRIPTION: P-37S GRAB 04/18/01 @1515

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.3		SU	EPA 150.1	4/18/01 15:15	BSC
TEMPERATURE (field)	52.4		F	EPA 170.1	4/18/01 15:15	BSC
SPECIFIC CONDUCTANCE	424	1	µMHOS/CM	EPA 120.1	4/18/01 15:15	BSC
Dissolved Oxygen	3.0	1.0	mg/l	EPA 360.1	4/18/01 15:15	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	<100	100	ug/l	8260	5/01/01 0:13	JL
bromomethane	<100	100	ug/l	8260	5/01/01 0:13	JL
vinyl chloride	<10	10	ug/l	8260	5/01/01 0:13	JL
dichlorodifluoromethane	<100	100	ug/l	8260	5/01/01 0:13	JL
ethane	<100	100	ug/l	8260	5/01/01 0:13	JL
methylene chloride	<50	50	ug/l	8260	5/01/01 0:13	JL
trichlorofluoromethane	<10	10	ug/l	8260	5/01/01 0:13	JL
1,1-dichloroethylene	<10	10	ug/l	8260	5/01/01 0:13	JL
1,1-dichloroethane	<10	10	ug/l	8260	5/01/01 0:13	JL
trans-1,2-dichloroethylene	<10	10	ug/l	8260	5/01/01 0:13	JL
chloroform	<10	10	ug/l	8260	5/01/01 0:13	JL
1,2-dichloroethane	<10	10	ug/l	8260	5/01/01 0:13	JL
1,1,1-Trichloroethane	<10	10	ug/l	8260	5/01/01 0:13	JL
carbon tetrachloride	<10	10	ug/l	8260	5/01/01 0:13	JL
bromodichloromethane	<10	10	ug/l	8260	5/01/01 0:13	JL
1,2-dichloropropane	<10	10	ug/l	8260	5/01/01 0:13	JL
cis-1,3-dichloropropylene	<10	10	ug/l	8260	5/01/01 0:13	JL
trichloroethylene	<10	10	ug/l	8260	5/01/01 0:13	JL
trans-1,3-dichloropropylene	<10	10	ug/l	8260	5/01/01 0:13	JL
1,1,2-Trichloroethane	<10	10	ug/l	8260	5/01/01 0:13	JL
Dibromochloromethane	<10	10	ug/l	8260	5/01/01 0:13	JL
Bromoform	<10	10	ug/l	8260	5/01/01 0:13	JL
Tetrachloroethylene	<10	10	ug/l	8260	5/01/01 0:13	JL
1,1,2,2-Tetrachloroethane	<10	10	ug/l	8260	5/01/01 0:13	JL
Chlorobenzene	330	10	ug/l	8260	5/01/01 0:13	JL
2-chloroethyl vinyl ether	<20	20	ug/l	8260	5/01/01 0:13	JL
benzene	<10	10	ug/l	8260	5/01/01 0:13	JL
toluene	<10	10	ug/l	8260	5/01/01 0:13	JL
ethylbenzene	<10	10	ug/l	8260	5/01/01 0:13	JL
olenes(Total)	<10	10	ug/l	8260	5/01/01 0:13	JL
cetone	<100	100	ug/l	8260	5/01/01 0:13	JL
carbon disulfide	<50	50	ug/l	8260	5/01/01 0:13	JL
2-butanone(MEK)	<100	100	ug/l	8260	5/01/01 0:13	JL
vinyl acetate	<500	500	ug/l	8260	5/01/01 0:13	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 010

P-37S GRAB 04/18/01 @1515

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	< 500	500	ug/l	8260	5/01/01 0:13	JL
2-hexanone	< 500	500	ug/l	8260	5/01/01 0:13	JL
Styrene	< 10	10	ug/l	8260	5/01/01 0:13	JL
o-chlorotoluene	< 10	10	ug/l	8260	5/01/01 0:13	JL
1,2-Dichlorobenzene	< 10	10	ug/l	8260	5/01/01 0:13	JL
1,3-Dichlorobenzene	< 10	10	ug/l	8260	5/01/01 0:13	JL
1,4-Dichlorobenzene	< 10	10	ug/l	8260	5/01/01 0:13	JL
Surrogates		RANGE		8260	5/01/01 0:13	JL
Dibromofluoromethane	98		86-118%	8260	5/01/01 0:13	JL
4-Bromofluorobenzene	100		86-115%	8260	5/01/01 0:13	JL
ene-D8	100		88-110%	8260	5/01/01 0:13	JL

Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.  
 Date Received: 4/19/01  
 Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 011

SAMPLE DESCRIPTION: SW 110 GRAB 04/18/01 @1550

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.0		SU	EPA 150.1	4/18/01 15:50	BSC
TEMPERATURE (field)	58.6		F	EPA 170.1	4/18/01 15:50	BSC
SPECIFIC CONDUCTANCE	397	1	uMHOS/CM	EPA 120.1	4/18/01 15:50	BSC
Dissolved Oxygen	3.0	1.0	mg/l	EPA 360.1	4/18/01 15:50	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	< 10	10	ug/l	8260	5/01/01 14:17	JL
bromomethane	< 10	10	ug/l	8260	5/01/01 14:17	JL
vinyl chloride	6	1	ug/l	8260	5/01/01 14:17	JL
dichlorodifluoromethane	< 10	10	ug/l	8260	5/01/01 14:17	JL
propane	< 10	10	ug/l	8260	5/01/01 14:17	JL
methylene chloride	< 5	5	ug/l	8260	5/01/01 14:17	JL
trichlorofluoromethane	< 1	1	ug/l	8260	5/01/01 14:17	JL
1,1-dichloroethylene	< 1	1	ug/l	8260	5/01/01 14:17	JL
1,1-dichloroethane	< 1	1	ug/l	8260	5/01/01 14:17	JL
trans-1,2-dichloroethylene	< 1	1	ug/l	8260	5/01/01 14:17	JL
chloroform	< 1	1	ug/l	8260	5/01/01 14:17	JL
1,2-dichloroethane	< 1	1	ug/l	8260	5/01/01 14:17	JL
1,1,1-Trichloroethane	< 1	1	ug/l	8260	5/01/01 14:17	JL
carbon tetrachloride	< 1	1	ug/l	8260	5/01/01 14:17	JL
bromodichloromethane	< 1	1	ug/l	8260	5/01/01 14:17	JL
1,2-dichloropropane	< 1	1	ug/l	8260	5/01/01 14:17	JL
cis-1,3-dichloropropylene	< 1	1	ug/l	8260	5/01/01 14:17	JL
trichloroethylene	< 1	1	ug/l	8260	5/01/01 14:17	JL
trans-1,3-dichloropropylene	< 1	1	ug/l	8260	5/01/01 14:17	JL
1,1,2-Trichloroethane	< 1	1	ug/l	8260	5/01/01 14:17	JL
Dibromochloromethane	< 1	1	ug/l	8260	5/01/01 14:17	JL
Bromoform	< 1	1	ug/l	8260	5/01/01 14:17	JL
Tetrachloroethylene	< 1	1	ug/l	8260	5/01/01 14:17	JL
1,1,2,2-Tetrachloroethane	< 1	1	ug/l	8260	5/01/01 14:17	JL
Chlorobenzene	3	1	ug/l	8260	5/01/01 14:17	JL
2-chloroethyl vinyl ether	< 2	2	ug/l	8260	5/01/01 14:17	JL
benzene	< 1	1	ug/l	8260	5/01/01 14:17	JL
toluene	< 1	1	ug/l	8260	5/01/01 14:17	JL
ethylbenzene	< 1	1	ug/l	8260	5/01/01 14:17	JL
olefins(Total)	< 1	1	ug/l	8260	5/01/01 14:17	JL
cetone	< 10	10	ug/l	8260	5/01/01 14:17	JL
carbon disulfide	< 5	5	ug/l	8260	5/01/01 14:17	JL
2-butanone(MEK)	< 10	10	ug/l	8260	5/01/01 14:17	JL
vinyl acetate	< 50	50	ug/l	8260	5/01/01 14:17	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 011

SW 110 GRAB 04/18/01 @1550

PARAMETER	SAMPLE	DET.	UNITS	METHOD	ANALYZED		ANALYST
	RESULTS	LIMIT			DATE/TIME		
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	5/01/01	14:17	JL
2-hexanone	<50	50	ug/l	8260	5/01/01	14:17	JL
Styrene	<1	1	ug/l	8260	5/01/01	14:17	JL
o-chlorotoluene	<1	1	ug/l	8260	5/01/01	14:17	JL
1,2-Dichlorobenzene	<1	1	ug/l	8260	5/01/01	14:17	JL
1,3-Dichlorobenzene	<1	1	ug/l	8260	5/01/01	14:17	JL
1,4-Dichlorobenzene	<1	1	ug/l	8260	5/01/01	14:17	JL
Surrogates			RANGE	8260	5/01/01	14:17	JL
Dibromofluoromethane	105		86-118%	8260	5/01/01	14:17	JL
4-Bromofluorobenzene	96		86-115%	8260	5/01/01	14:17	JL
Toluene-D8	101		88-110%	8260	5/01/01	14:17	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 012

SAMPLE DESCRIPTION: P-38S GRAB 04/18/01 @1555

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.8		SU	EPA 150.1	4/18/01 15:55	BSC
TEMPERATURE (field)	55.7		F	EPA 170.1	4/18/01 15:55	BSC
SPECIFIC CONDUCTANCE	361	1	µMHOS/CM	EPA 120.1	4/18/01 15:50	BSC
Dissolved Oxygen	6.4	1.0	mg/l	EPA 360.1	4/18/01 15:50	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	<10	10	ug/l	8260	4/30/01 18:55	JL
bromomethane	<10	10	ug/l	8260	4/30/01 18:55	JL
vinyl chloride	<1	1	ug/l	8260	4/30/01 18:55	JL
dichlorodifluoromethane	<10	10	ug/l	8260	4/30/01 18:55	JL
chloroethane	<10	10	ug/l	8260	4/30/01 18:55	JL
methylene chloride	<5	5	ug/l	8260	4/30/01 18:55	JL
trichlorofluoromethane	<1	1	ug/l	8260	4/30/01 18:55	JL
1,1-dichloroethylene	<1	1	ug/l	8260	4/30/01 18:55	JL
1,1-dichloroethane	<1	1	ug/l	8260	4/30/01 18:55	JL
trans-1,2-dichloroethylene	<1	1	ug/l	8260	4/30/01 18:55	JL
chloroform	<1	1	ug/l	8260	4/30/01 18:55	JL
1,2-dichloroethane	<1	1	ug/l	8260	4/30/01 18:55	JL
1,1,1-Trichloroethane	<1	1	ug/l	8260	4/30/01 18:55	JL
carbon tetrachloride	<1	1	ug/l	8260	4/30/01 18:55	JL
bromodichloromethane	<1	1	ug/l	8260	4/30/01 18:55	JL
1,2-dichloropropane	<1	1	ug/l	8260	4/30/01 18:55	JL
cis-1,3-dichloropropylene	<1	1	ug/l	8260	4/30/01 18:55	JL
trichloroethylene	<1	1	ug/l	8260	4/30/01 18:55	JL
trans-1,3-dichloropropylene	<1	1	ug/l	8260	4/30/01 18:55	JL
1,1,2-Trichloroethane	<1	1	ug/l	8260	4/30/01 18:55	JL
Dibromochloromethane	<1	1	ug/l	8260	4/30/01 18:55	JL
Bromoform	<1	1	ug/l	8260	4/30/01 18:55	JL
Tetrachloroethylene	<1	1	ug/l	8260	4/30/01 18:55	JL
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	4/30/01 18:55	JL
Chlorobenzene	<1	1	ug/l	8260	4/30/01 18:55	JL
2-chloroethyl vinyl ether	<2	2	ug/l	8260	4/30/01 18:55	JL
benzene	<1	1	ug/l	8260	4/30/01 18:55	JL
toluene	<1	1	ug/l	8260	4/30/01 18:55	JL
ethylbenzene	<1	1	ug/l	8260	4/30/01 18:55	JL
ethenes(Total)	<1	1	ug/l	8260	4/30/01 18:55	JL
acetone	<10	10	ug/l	8260	4/30/01 18:55	JL
carbon disulfide	<5	5	ug/l	8260	4/30/01 18:55	JL
2-butanone(MEK)	<10	10	ug/l	8260	4/30/01 18:55	JL
vinyl acetate	<50	50	ug/l	8260	4/30/01 18:55	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.  
 Date Received: 4/19/01  
 Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 012

P-38S GRAB 04/18/01 @1555

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	4/30/01 18:55	JL
2-hexanone	<50	50	ug/l	8260	4/30/01 18:55	JL
Styrene	<1	1	ug/l	8260	4/30/01 18:55	JL
o-chlorotoluene	<1	1	ug/l	8260	4/30/01 18:55	JL
1,2-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 18:55	JL
1,3-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 18:55	JL
1,4-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 18:55	JL
Surrogates		RANGE		8260	4/30/01 18:55	JL
Dibromofluoromethane	99		86-118%	8260	4/30/01 18:55	JL
4-Bromofluorobenzene	99		86-115%	8260	4/30/01 18:55	JL
Ene-D8	99		88-110%	8260	4/30/01 18:55	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 013

SAMPLE DESCRIPTION: SW-130 GRAB 04/19/01 @0925

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.4		SU	EPA 150.1	4/19/01 9:25	BSC
TEMPERATURE (field)	51.7		F	EPA 170.1	4/19/01 9:25	BSC
SPECIFIC CONDUCTANCE	358	1	uMHOS/CM	EPA 120.1	4/19/01 9:25	BSC
Dissolved Oxygen	<1.0	1.0	mg/l	EPA 360.1	4/19/01 9:25	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	<10	10	ug/l	8260	4/30/01 19:31	JL
bromomethane	<10	10	ug/l	8260	4/30/01 19:31	JL
vinyl chloride	3	1	ug/l	8260	4/30/01 19:31	JL
dichlorodifluoromethane	<10	10	ug/l	8260	4/30/01 19:31	JL
chloroethane	<10	10	ug/l	8260	4/30/01 19:31	JL
methylene chloride	<5	5	ug/l	8260	4/30/01 19:31	JL
trichlorofluoromethane	<1	1	ug/l	8260	4/30/01 19:31	JL
1,1-dichloroethylene	<1	1	ug/l	8260	4/30/01 19:31	JL
1,1-dichloroethane	<1	1	ug/l	8260	4/30/01 19:31	JL
trans-1,2-dichloroethylene	<1	1	ug/l	8260	4/30/01 19:31	JL
chloroform	<1	1	ug/l	8260	4/30/01 19:31	JL
1,2-dichloroethane	<1	1	ug/l	8260	4/30/01 19:31	JL
1,1,1-Trichloroethane	<1	1	ug/l	8260	4/30/01 19:31	JL
carbon tetrachloride	<1	1	ug/l	8260	4/30/01 19:31	JL
bromodichloromethane	<1	1	ug/l	8260	4/30/01 19:31	JL
1,2-dichloropropane	<1	1	ug/l	8260	4/30/01 19:31	JL
cis-1,3-dichloropropylene	<1	1	ug/l	8260	4/30/01 19:31	JL
trichloroethylene	<1	1	ug/l	8260	4/30/01 19:31	JL
trans-1,3-dichloropropylene	<1	1	ug/l	8260	4/30/01 19:31	JL
1,1,2-Trichloroethane	<1	1	ug/l	8260	4/30/01 19:31	JL
Dibromochloromethane	<1	1	ug/l	8260	4/30/01 19:31	JL
Bromoform	<1	1	ug/l	8260	4/30/01 19:31	JL
Tetrachloroethylene	<1	1	ug/l	8260	4/30/01 19:31	JL
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	4/30/01 19:31	JL
Chlorobenzene	<1	1	ug/l	8260	4/30/01 19:31	JL
2-chloroethyl vinyl ether	<2	2	ug/l	8260	4/30/01 19:31	JL
benzene	<1	1	ug/l	8260	4/30/01 19:31	JL
toluene	<1	1	ug/l	8260	4/30/01 19:31	JL
ethylbenzene	<1	1	ug/l	8260	4/30/01 19:31	JL
enes(Total)	<1	1	ug/l	8260	4/30/01 19:31	JL
cetone	<10	10	ug/l	8260	4/30/01 19:31	JL
carbon disulfide	<5	5	ug/l	8260	4/30/01 19:31	JL
2-butanone(MEK)	<10	10	ug/l	8260	4/30/01 19:31	JL
vinyl acetate	<50	50	ug/l	8260	4/30/01 19:31	JL

R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 013

SW-130 GRAB 04/19/01 @0925

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	4/30/01 19:31	JL
2-hexanone	<50	50	ug/l	8260	4/30/01 19:31	JL
Styrene	<1	1	ug/l	8260	4/30/01 19:31	JL
o-chlorotoluene	<1	1	ug/l	8260	4/30/01 19:31	JL
1,2-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 19:31	JL
1,3-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 19:31	JL
1,4-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 19:31	JL
Surrogates		RANGE		8260	4/30/01 19:31	JL
Dibromofluoromethane	99		86-118%	8260	4/30/01 19:31	JL
4-Bromofluorobenzene	98		86-115%	8260	4/30/01 19:31	JL
Toluene-D8	100		88-110%	8260	4/30/01 19:31	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 014

SAMPLE DESCRIPTION: MW-004S GRAB 04/19/01 @1025

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	7.2		SU	EPA 150.1	4/19/01 10:25	BSC
TEMPERATURE (field)	54.0		F	EPA 170.1	4/19/01 10:25	BSC
SPECIFIC CONDUCTANCE	313	1	uMHOS/CM	EPA 120.1	4/19/01 10:25	BSC
Dissolved Oxygen	5.5	1.0	mg/l	EPA 360.1	4/19/01 10:25	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	<10	10	ug/l	8260	5/01/01 15:11	JL
bromomethane	<10	10	ug/l	8260	5/01/01 15:11	JL
vinyl chloride	<1	1	ug/l	8260	5/01/01 15:11	JL
dichlorodifluoromethane	<10	10	ug/l	8260	5/01/01 15:11	JL
propane	<10	10	ug/l	8260	5/01/01 15:11	JL
ethylene chloride	<5	5	ug/l	8260	5/01/01 15:11	JL
trichlorofluoromethane	<1	1	ug/l	8260	5/01/01 15:11	JL
1,1-dichloroethylene	<1	1	ug/l	8260	5/01/01 15:11	JL
1,1-dichloroethane	<1	1	ug/l	8260	5/01/01 15:11	JL
trans-1,2-dichloroethylene	<1	1	ug/l	8260	5/01/01 15:11	JL
chloroform	<1	1	ug/l	8260	5/01/01 15:11	JL
1,2-dichloroethane	<1	1	ug/l	8260	5/01/01 15:11	JL
1,1,1-Trichloroethane	<1	1	ug/l	8260	5/01/01 15:11	JL
carbon tetrachloride	<1	1	ug/l	8260	5/01/01 15:11	JL
bromodichloromethane	<1	1	ug/l	8260	5/01/01 15:11	JL
1,2-dichloropropane	<1	1	ug/l	8260	5/01/01 15:11	JL
cis-1,3-dichloropropylene	<1	1	ug/l	8260	5/01/01 15:11	JL
trichloroethylene	<1	1	ug/l	8260	5/01/01 15:11	JL
trans-1,3-dichloropropylene	<1	1	ug/l	8260	5/01/01 15:11	JL
1,1,2-Trichloroethane	<1	1	ug/l	8260	5/01/01 15:11	JL
Dibromochloromethane	<1	1	ug/l	8260	5/01/01 15:11	JL
Bromoform	<1	1	ug/l	8260	5/01/01 15:11	JL
Tetrachloroethylene	<1	1	ug/l	8260	5/01/01 15:11	JL
1,1,2,2-Tetrachloroethane	<1	1	ug/l	8260	5/01/01 15:11	JL
Chlorobenzene	1	1	ug/l	8260	5/01/01 15:11	JL
2-chloroethyl vinyl ether	<2	2	ug/l	8260	5/01/01 15:11	JL
benzene	<1	1	ug/l	8260	5/01/01 15:11	JL
toluene	<1	1	ug/l	8260	5/01/01 15:11	JL
ethylbenzene	<1	1	ug/l	8260	5/01/01 15:11	JL
oluenes(Total)	2	1	ug/l	8260	5/01/01 15:11	JL
acetone	<10	10	ug/l	8260	5/01/01 15:11	JL
carbon disulfide	<5	5	ug/l	8260	5/01/01 15:11	JL
2-butanone(MEK)	<10	10	ug/l	8260	5/01/01 15:11	JL
vinyl acetate	<50	50	ug/l	8260	5/01/01 15:11	JL

R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 014

MW-004S GRAB 04/19/01 @1025

PARAMETER	SAMPLE	DET.	UNITS	METHOD	ANALYZED		ANALYST
	RESULTS	LIMIT			DATE/TIME		
4-methyl-2-pentanone(MIBK)	<50	50	ug/l	8260	5/01/01	15:11	JL
2-hexanone	<50	50	ug/l	8260	5/01/01	15:11	JL
Styrene	<1	1	ug/l	8260	5/01/01	15:11	JL
o-chlorotoluene	36	1	ug/l	8260	5/01/01	15:11	JL
1,2-Dichlorobenzene	<1	1	ug/l	8260	5/01/01	15:11	JL
1,3-Dichlorobenzene	<1	1	ug/l	8260	5/01/01	15:11	JL
1,4-Dichlorobenzene	<1	1	ug/l	8260	5/01/01	15:11	JL
Surrogates			RANGE	8260	5/01/01	15:11	JL
Dibromofluoromethane	105		86-118%	8260	5/01/01	15:11	JL
4-Bromofluorobenzene	96		86-115%	8260	5/01/01	15:11	JL
ene-D8	102		88-110%	8260	5/01/01	15:11	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 015

SAMPLE DESCRIPTION: MW-21S GRAB 04/19/01 @1105

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
pH (field)	6.7		SU	EPA 150.1	4/19/01 11:05	BSC
TEMPERATURE (field)	52.0		F	EPA 170.1	4/19/01 11:05	BSC
SPECIFIC CONDUCTANCE	229	1	uMHOS/CM	EPA 120.1	4/19/01 11:05	BSC
Dissolved Oxygen	1.9	1.0	mg/l	EPA 360.1	4/19/01 11:05	BSC
<b>Volatile Organic Compounds</b>						
chloromethane	< 100	100	ug/l	8260	5/02/01 12:24	JL
bromomethane	< 100	100	ug/l	8260	5/02/01 12:24	JL
vinyl chloride	< 10	10	ug/l	8260	5/02/01 12:24	JL
dichlorodifluoromethane	< 100	100	ug/l	8260	5/02/01 12:24	JL
propane	< 100	100	ug/l	8260	5/02/01 12:24	JL
methylene chloride	< 50	50	ug/l	8260	5/02/01 12:24	JL
trichlorofluoromethane	< 10	10	ug/l	8260	5/02/01 12:24	JL
1,1-dichloroethylene	< 10	10	ug/l	8260	5/02/01 12:24	JL
1,1-dichloroethane	< 10	10	ug/l	8260	5/02/01 12:24	JL
trans-1,2-dichloroethylene	< 10	10	ug/l	8260	5/02/01 12:24	JL
chloroform	< 10	10	ug/l	8260	5/02/01 12:24	JL
1,2-dichloroethane	< 10	10	ug/l	8260	5/02/01 12:24	JL
1,1,1-Trichloroethane	< 10	10	ug/l	8260	5/02/01 12:24	JL
carbon tetrachloride	< 10	10	ug/l	8260	5/02/01 12:24	JL
bromodichloromethane	< 10	10	ug/l	8260	5/02/01 12:24	JL
1,2-dichloropropane	< 10	10	ug/l	8260	5/02/01 12:24	JL
cis-1,3-dichloropropylene	< 10	10	ug/l	8260	5/02/01 12:24	JL
trichloroethylene	< 10	10	ug/l	8260	5/02/01 12:24	JL
trans-1,3-dichloropropylene	< 10	10	ug/l	8260	5/02/01 12:24	JL
1,1,2-Trichloroethane	< 10	10	ug/l	8260	5/02/01 12:24	JL
Dibromochloromethane	< 10	10	ug/l	8260	5/02/01 12:24	JL
Bromoform	< 10	10	ug/l	8260	5/02/01 12:24	JL
Tetrachloroethylene	< 10	10	ug/l	8260	5/02/01 12:24	JL
1,1,2,2-Tetrachloroethane	< 10	10	ug/l	8260	5/02/01 12:24	JL
Chlorobenzene	< 10	10	ug/l	8260	5/02/01 12:24	JL
2-chloroethyl vinyl ether	< 20	20	ug/l	8260	5/02/01 12:24	JL
benzene	< 10	10	ug/l	8260	5/02/01 12:24	JL
toluene	< 10	10	ug/l	8260	5/02/01 12:24	JL
ethylbenzene	< 10	10	ug/l	8260	5/02/01 12:24	JL
olenes(Total)	< 10	10	ug/l	8260	5/02/01 12:24	JL
acetone	< 100	100	ug/l	8260	5/02/01 12:24	JL
carbon disulfide	< 50	50	ug/l	8260	5/02/01 12:24	JL
2-butanone(MEK)	< 100	100	ug/l	8260	5/02/01 12:24	JL
vinyl acetate	< 500	500	ug/l	8260	5/02/01 12:24	JL

R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.  
 Date Received: 4/19/01  
 Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 015

MW-21S GRAB 04/19/01 @1105

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
4-methyl-2-pentanone(MIBK)	<500	500	ug/l	8260	5/02/01 12:24	JL
2-hexanone	<500	500	ug/l	8260	5/02/01 12:24	JL
Styrene	<10	10	ug/l	8260	5/02/01 12:24	JL
o-chlorotoluene	440	10	ug/l	8260	5/02/01 12:24	JL
1,2-Dichlorobenzene	<10	10	ug/l	8260	5/02/01 12:24	JL
1,3-Dichlorobenzene	<10	10	ug/l	8260	5/02/01 12:24	JL
1,4-Dichlorobenzene	<10	10	ug/l	8260	5/02/01 12:24	JL
Surrogates		RANGE		8260	5/02/01 12:24	JL
Dibromofluoromethane	102		86-118%	8260	5/02/01 12:24	JL
4-Bromofluorobenzene	97		86-115%	8260	5/02/01 12:24	JL
Toluene-D8	100		88-110%	8260	5/02/01 12:24	JL

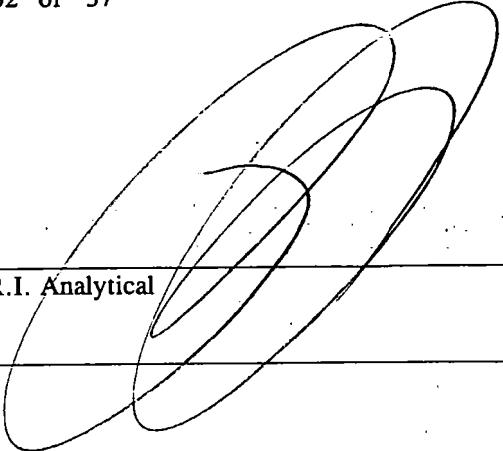
Method 8260: Detection limits increased as a result of sample dilution. Sample dilution required to achieve target compound response within the calibration range of the analysis.

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.  
 Date Received: 4/19/01  
 Work Order # 0104-04327

Approved by:

  
R.I. Analytical

Sample #: 016

SAMPLE DESCRIPTION: TRIP BLANK GRAB 04/18/01 @0700

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
<b>Volatile Organic Compounds</b>						
chloromethane	< 10	10	ug/l	8260	4/30/01 16:29	JL
bromomethane	< 10	10	ug/l	8260	4/30/01 16:29	JL
vinyl chloride	< 1	1	ug/l	8260	4/30/01 16:29	JL
dichlorodifluoromethane	< 10	10	ug/l	8260	4/30/01 16:29	JL
chloroethane	< 10	10	ug/l	8260	4/30/01 16:29	JL
methylene chloride	< 5	5	ug/l	8260	4/30/01 16:29	JL
trichlorofluoromethane	< 1	1	ug/l	8260	4/30/01 16:29	JL
1,1-dichloroethylene	< 1	1	ug/l	8260	4/30/01 16:29	JL
1,1-dichloroethane	< 1	1	ug/l	8260	4/30/01 16:29	JL
trans-1,2-dichloroethylene	< 1	1	ug/l	8260	4/30/01 16:29	JL
chloroform	< 1	1	ug/l	8260	4/30/01 16:29	JL
1,2-dichloroethane	< 1	1	ug/l	8260	4/30/01 16:29	JL
1,1,1-Trichloroethane	< 1	1	ug/l	8260	4/30/01 16:29	JL
carbon tetrachloride	< 1	1	ug/l	8260	4/30/01 16:29	JL
bromodichloromethane	< 1	1	ug/l	8260	4/30/01 16:29	JL
1,2-dichloropropane	< 1	1	ug/l	8260	4/30/01 16:29	JL
cis-1,3-dichloropropylene	< 1	1	ug/l	8260	4/30/01 16:29	JL
trichloroethylene	< 1	1	ug/l	8260	4/30/01 16:29	JL
trans-1,3-dichloropropylene	< 1	1	ug/l	8260	4/30/01 16:29	JL
1,1,2-Trichloroethane	< 1	1	ug/l	8260	4/30/01 16:29	JL
Dibromochloromethane	< 1	1	ug/l	8260	4/30/01 16:29	JL
Bromoform	< 1	1	ug/l	8260	4/30/01 16:29	JL
Tetrachloroethylene	< 1	1	ug/l	8260	4/30/01 16:29	JL
1,1,2,2-Tetrachloroethane	< 1	1	ug/l	8260	4/30/01 16:29	JL
Chlorobenzene	< 1	1	ug/l	8260	4/30/01 16:29	JL
2-chloroethyl vinyl ether	< 2	2	ug/l	8260	4/30/01 16:29	JL
benzene	< 1	1	ug/l	8260	4/30/01 16:29	JL
toluene	< 1	1	ug/l	8260	4/30/01 16:29	JL
ethylbenzene	< 1	1	ug/l	8260	4/30/01 16:29	JL
xylenes(Total)	< 1	1	ug/l	8260	4/30/01 16:29	JL
acetone	< 10	10	ug/l	8260	4/30/01 16:29	JL
carbon disulfide	< 5	5	ug/l	8260	4/30/01 16:29	JL
2-butanone(MEK)	< 10	10	ug/l	8260	4/30/01 16:29	JL
vinyl acetate	< 50	50	ug/l	8260	4/30/01 16:29	JL
-methyl-2-pentanone(MIBK)	< 50	50	ug/l	8260	4/30/01 16:29	JL
2-hexanone	< 50	50	ug/l	8260	4/30/01 16:29	JL
Styrene	< 1	1	ug/l	8260	4/30/01 16:29	JL
o-chlorotoluene	< 1	1	ug/l	8260	4/30/01 16:29	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 016

TRIP BLANK GRAB 04/18/01 @0700

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
1,2-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 16:29	JL
1,3-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 16:29	JL
1,4-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 16:29	JL
Surrogates			RANGE	8260	4/30/01 16:29	JL
Dibromofluoromethane	98		86-118%	8260	4/30/01 16:29	JL
4-Bromofluorobenzene	97		86-115%	8260	4/30/01 16:29	JL
Toluene-D8	100		88-110%	8260	4/30/01 16:29	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 017

SAMPLE DESCRIPTION: EQUIPMENT BLANK GRAB 04/18/01 @0915

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
<b>Volatile Organic Compounds</b>						
chloromethane	< 10	10	ug/l	8260	4/30/01 17:14	JL
bromomethane	< 10	10	ug/l	8260	4/30/01 17:14	JL
vinyl chloride	< 1	1	ug/l	8260	4/30/01 17:14	JL
dichlorodifluoromethane	< 10	10	ug/l	8260	4/30/01 17:14	JL
chloroethane	< 10	10	ug/l	8260	4/30/01 17:14	JL
methylene chloride	< 5	5	ug/l	8260	4/30/01 17:14	JL
trichlorofluoromethane	< 1	1	ug/l	8260	4/30/01 17:14	JL
1,1-dichloroethylene	< 1	1	ug/l	8260	4/30/01 17:14	JL
1,1-dichloroethane	< 1	1	ug/l	8260	4/30/01 17:14	JL
trans-1,2-dichloroethylene	< 1	1	ug/l	8260	4/30/01 17:14	JL
chloroform	< 1	1	ug/l	8260	4/30/01 17:14	JL
1,2-dichloroethane	< 1	1	ug/l	8260	4/30/01 17:14	JL
1,1,1-Trichloroethane	< 1	1	ug/l	8260	4/30/01 17:14	JL
carbon tetrachloride	< 1	1	ug/l	8260	4/30/01 17:14	JL
bromodichloromethane	< 1	1	ug/l	8260	4/30/01 17:14	JL
1,2-dichloropropane	< 1	1	ug/l	8260	4/30/01 17:14	JL
cis-1,3-dichloropropylene	< 1	1	ug/l	8260	4/30/01 17:14	JL
trichloroethylene	< 1	1	ug/l	8260	4/30/01 17:14	JL
trans-1,3-dichloropropylene	< 1	1	ug/l	8260	4/30/01 17:14	JL
1,1,2-Trichloroethane	< 1	1	ug/l	8260	4/30/01 17:14	JL
Dibromochloromethane	< 1	1	ug/l	8260	4/30/01 17:14	JL
Bromoform	< 1	1	ug/l	8260	4/30/01 17:14	JL
Tetrachloroethylene	< 1	1	ug/l	8260	4/30/01 17:14	JL
1,1,2,2-Tetrachloroethane	< 1	1	ug/l	8260	4/30/01 17:14	JL
Chlorobenzene	< 1	1	ug/l	8260	4/30/01 17:14	JL
2-chloroethyl vinyl ether	< 2	2	ug/l	8260	4/30/01 17:14	JL
benzene	< 1	1	ug/l	8260	4/30/01 17:14	JL
toluene	< 1	1	ug/l	8260	4/30/01 17:14	JL
ethylbenzene	< 1	1	ug/l	8260	4/30/01 17:14	JL
xylenes(Total)	< 1	1	ug/l	8260	4/30/01 17:14	JL
acetone	< 10	10	ug/l	8260	4/30/01 17:14	JL
carbon disulfide	< 5	5	ug/l	8260	4/30/01 17:14	JL
2-butanone(MEK)	< 10	10	ug/l	8260	4/30/01 17:14	JL
ethyl acetate	< 50	50	ug/l	8260	4/30/01 17:14	JL
1-methyl-2-pentanone(MIBK)	< 50	50	ug/l	8260	4/30/01 17:14	JL
2-hexanone	< 50	50	ug/l	8260	4/30/01 17:14	JL
Styrene	< 1	1	ug/l	8260	4/30/01 17:14	JL
o-chlorotoluene	< 1	1	ug/l	8260	4/30/01 17:14	JL

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 017

EQUIPMENT BLANK GRAB 04/18/01 @0915

PARAMETER	SAMPLE	DET.	UNITS	METHOD	ANALYZED		ANALYST
	RESULTS	LIMIT			DATE/TIME		
1,2-Dichlorobenzene	<1	1	ug/l	8260	4/30/01	17:14	JL
1,3-Dichlorobenzene	<1	1	ug/l	8260	4/30/01	17:14	JL
1,4-Dichlorobenzene	<1	1	ug/l	8260	4/30/01	17:14	JL
Surrogates			RANGE	8260	4/30/01	17:14	JL
Dibromofluoromethane	101		86-118%	8260	4/30/01	17:14	JL
4-Bromofluorobenzene	99		86-115%	8260	4/30/01	17:14	JL
Toluene-D8	100		88-110%	8260	4/30/01	17:14	JL

R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 018

SAMPLE DESCRIPTION: EQUIPMENT BLANK GRAB 04/19/01 @1020

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
<b>Volatile Organic Compounds</b>						
chloromethane	< 10	10	ug/l	8260	4/30/01 18:19	JL
bromomethane	< 10	10	ug/l	8260	4/30/01 18:19	JL
vinyl chloride	< 1	1	ug/l	8260	4/30/01 18:19	JL
dichlorodifluoromethane	< 10	10	ug/l	8260	4/30/01 18:19	JL
chloroethane	< 10	10	ug/l	8260	4/30/01 18:19	JL
methylene chloride	< 5	5	ug/l	8260	4/30/01 18:19	JL
trichlorofluoromethane	< 1	1	ug/l	8260	4/30/01 18:19	JL
1,1-dichloroethylene	< 1	1	ug/l	8260	4/30/01 18:19	JL
1,1-dichloroethane	< 1	1	ug/l	8260	4/30/01 18:19	JL
trans-1,2-dichloroethylene	< 1	1	ug/l	8260	4/30/01 18:19	JL
chloroform	< 1	1	ug/l	8260	4/30/01 18:19	JL
1,2-dichloroethane	< 1	1	ug/l	8260	4/30/01 18:19	JL
1,1,1-Trichloroethane	< 1	1	ug/l	8260	4/30/01 18:19	JL
carbon tetrachloride	< 1	1	ug/l	8260	4/30/01 18:19	JL
bromodichloromethane	< 1	1	ug/l	8260	4/30/01 18:19	JL
1,2-dichloropropane	< 1	1	ug/l	8260	4/30/01 18:19	JL
cis-1,3-dichloropropylene	< 1	1	ug/l	8260	4/30/01 18:19	JL
trichloroethylene	< 1	1	ug/l	8260	4/30/01 18:19	JL
trans-1,3-dichloropropylene	< 1	1	ug/l	8260	4/30/01 18:19	JL
1,1,2-Trichloroethane	< 1	1	ug/l	8260	4/30/01 18:19	JL
Dibromochloromethane	< 1	1	ug/l	8260	4/30/01 18:19	JL
Bromoform	< 1	1	ug/l	8260	4/30/01 18:19	JL
Tetrachloroethylene	< 1	1	ug/l	8260	4/30/01 18:19	JL
1,1,2,2-Tetrachloroethane	< 1	1	ug/l	8260	4/30/01 18:19	JL
Chlorobenzene	< 1	1	ug/l	8260	4/30/01 18:19	JL
2-chloroethyl vinyl ether	< 2	2	ug/l	8260	4/30/01 18:19	JL
benzene	< 1	1	ug/l	8260	4/30/01 18:19	JL
toluene	< 1	1	ug/l	8260	4/30/01 18:19	JL
ethylbenzene	< 1	1	ug/l	8260	4/30/01 18:19	JL
xylenes(Total)	< 1	1	ug/l	8260	4/30/01 18:19	JL
acetone	< 10	10	ug/l	8260	4/30/01 18:19	JL
carbon disulfide	< 5	5	ug/l	8260	4/30/01 18:19	JL
2-butanone(MEK)	< 10	10	ug/l	8260	4/30/01 18:19	JL
ethyl acetate	< 50	50	ug/l	8260	4/30/01 18:19	JL
methyl-2-pentanone(MIBK)	< 50	50	ug/l	8260	4/30/01 18:19	JL
2-hexanone	< 50	50	ug/l	8260	4/30/01 18:19	JL
Styrene	< 1	1	ug/l	8260	4/30/01 18:19	JL
o-chlorotoluene	< 1	1	ug/l	8260	4/30/01 18:19	JL

R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Ciba Specialty Chemicals Corp.

Date Received: 4/19/01

Work Order # 0104-04327

Approved by:

R.I. Analytical

Sample #: 018

EQUIPMENT BLANK GRAB 04/19/01 @1020

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
1,2-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 18:19	JL
1,3-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 18:19	JL
1,4-Dichlorobenzene	<1	1	ug/l	8260	4/30/01 18:19	JL
Surrogates			RANGE	8260	4/30/01 18:19	JL
Dibromofluoromethane	99		86-118%	8260	4/30/01 18:19	JL
4-Bromofluorobenzene	100		86-115%	8260	4/30/01 18:19	JL
Toluene-D8	100		88-110%	8260	4/30/01 18:19	JL

**RI Analytical Laboratories, Inc.**  
**QA/QC Report**

**Client:** CIBA Specialty Chemicals Corp.  
**W.O. #:** 0104-04327  
**Date:** 5/03/01

**-Method Blank Results-**

Parameter	Units	Results		Date Analyzed
Benzene	ug/l	<1		5/01/2001
Chlorobenzene	ug/l	<1		5/01/2001
1,1-Dichloroethene	ug/l	<1		5/01/2001
Toluene	ug/l	<1		5/01/2001
Trichloroethylene	ug/l	<1		5/01/2001

**-Duplicate Results-**

Parameter	Units	Sample #	Sample Conc.	Dup. Conc.	Mean Conc.	% RSD	Date Analyzed
Benzene	ug/l	4327-15	<50	<50	<50	0	5/01/2001
Chlorobenzene	ug/l	4327-15	<50	<50	<50	0	5/01/2001
1,1-Dichloroethene	ug/l	4327-15	<50	<50	<50	0	5/01/2001
Toluene	ug/l	4327-15	<50	<50	<50	0	5/01/2001
Trichloroethylene	ug/l	4327-15	<50	<50	<50	0	5/01/2001

**-Matrix Spike-**

Parameter	Units	Sample #	Sample Conc.	Spike Conc.	Detected Conc.	% Rec.	Date Analyzed
Benzene	ug/l	4327-15	<50	2500	2379	95	5/01/2001
Chlorobenzene	ug/l	4327-15	<50	2500	2338	94	5/01/2001
1,1-Dichloroethene	ug/l	4327-15	<50	2500	2206	88	5/01/2001
Toluene	ug/l	4327-15	<50	2500	2219	89	5/01/2001
Trichloroethylene	ug/l	4327-15	<50	2500	2242	90	5/01/2001

**RI Analytical Laboratories, Inc.**  
**QA/QC Report**

**Client:** CIBA Specialty Chemicals Corp.  
**W.O. #:** 0104-04327  
**Date:** 5/03/01

**-Matrix Spike Duplicate-**

Parameter	Units	Sample #	Sample Conc.	Spike Conc.	Detected Conc.	% Rec.	Date Analyzed
Benzene	ug/l	4327-15	<50	2500	2580	103	5/01/2001
Chlorobenzene	ug/l	4327-15	<50	2500	2465	99	5/01/2001
1,1-Dichloroethene	ug/l	4327-15	<50	2500	2363	94	5/01/2001
Toluene	ug/l	4327-15	<50	2500	2395	96	5/01/2001
Trichloroethylene	ug/l	4327-15	<50	2500	2308	92	5/01/2001

**R.I. Analytical Laboratories, Inc.**

41 Illinois Avenue  
Warwick, RI 02888  
Phone: (401) 737-8500  
Fax: (401) 738-1970

950 Boylston Street, Unit 102  
Newton Highlands, MA 02461  
Phone: (617) 965-5133  
Fax: (617) 965-5624

**CHAIN OF CUSTODY RECORD**Page 1 of 2

**Container Type Codes:**  
P=Plastic V=Vial  
G=Glass St=Sterile  
AG=Amber Glass  
O=Other (describe)

**Preservative Codes:**  
NP=Non preserved S=Sulfuric  
I=Cooled 4°C H=HCL  
N=Nitric SH=NaOH  
M=Methanol SB=NAHSO4

**Matrix Codes:**  
GW=Groundwater S=Soil  
WW=Wastewater SI=Sludge  
DW=Drinking Water A=Air  
O=Other (describe) B=Bulk/Solid

Date Collected	Time Collected	Sample ID	G=Grab C=Comp.	Containers # + (code)	Preservative (code)	Matrix (code)	Analysis Request
4/18/01	0905	MW-02S	G	3-V	H	GW	8240 including O-Chlorotoluene, (PH Temp S.C., D.O.)
	0925	Pump House 120					
	0950	P-035S					
	1006	SW-120					
	1025	Pump House 130					
	1140	MW-12S					
	1210	P-36S					
	1310	Pump House 110					
	1320	MW-01S					
✓	1515	P-37S					

**Client Information**

Company Name: Ciba Geigy  
Address: Rt 37 West P.O. Box 71  
City / State / Zip: Toms River, New Jersey 08754-0071  
Phone: (903) 914-2737 Fax: (903) 914-2909  
Contact: Barry Cohen

Project Name / Location: Ciba Geigy Site On Mill Street, Cranston, RI  
P.O. Number: Project Number:  
Report To: Phone: Fax:  
Sampled by: Paul Perrotti, Brad Samuel  
Reference Proposal:

Relinquished by:	Date	Time	Received by:	Date	Time
Bernie Can	4/19/01	1230	Steve A Cook	4/19/01	1230

Turn Around Time:
<input checked="" type="checkbox"/> Normal
<input type="checkbox"/> 5 business days Surcharges may apply
<input type="checkbox"/> Rush _____ (business days)

## Project Comments:

\* QC to include: Matrix Spike  
Matrix Spike Duplicate  
Duplicate

\*\* pH, Temp, S.C., D.O., taken in field; Field Notes and results attached.

RIAL USE ONLY:
<input type="checkbox"/> Pick-Up Only
<input checked="" type="checkbox"/> RIAL Sampled
<input checked="" type="checkbox"/> Shipped on Ice
RIAL W.O. # 4-4327

**R.I. Analytical Laboratories, Inc.**

41 Illinois Avenue  
Warwick, RI 02888  
Phone: (401) 737-8500  
Fax: (401) 738-1970

950 Boylston Street, Unit 102  
Newton Highlands, MA 02461  
Phone: (617) 965-5133  
Fax: (617) 965-5624

**CHAIN OF CUSTODY RECORD**Page 2 of 2

Container Type Codes:		Preservative Codes:		Matrix Codes:	
P=Plastic	V=Vial	NP=Non preserved	S=Sulfuric	GW=Groundwater	S=Soil
G=Glass	St=Sterile	I=Cooled 4°C	H=HCL	WW=Wastewater	SI=Sludge
AG=Amber Glass	N=Nitric	SH=NaOH	DW=Drinking Water	A=Air	O=Other (describe)
O=Other (describe)	M=Methanol	SB=NAHSO4	SB=NAHSO4	B=Bulk/Solid	

Date Collected	Time Collected	Sample ID	G=Grab C=Comp.	Containers # + (code)	Preservative (code)	Matrix (code)	Analysis Request
4/18/01	1550	SW 110		6	3-V	H	GW 8240 including O-Chlorotoluene <del>pH, Temp, S.f., D.O.</del>
	↓ 1555	P-38S					
4/19/01	0925	SW-130					
	↓ 1025	MW-0045					
	↓ 1105	MW-215 *		6	6-V		
4/18/01	0700	Trip Blank			1-V	DCH DI	8240 including O-Chlorotoluene
4/18/01	0915	Equipment Blank					
4/19/01	1020	Equipment Blank					

**Client Information**

Company Name:	Ciba Geigy			Project Name / Location:	Ciba Geigy Site on Mill Street, Cranbury, NJ		
Address:	Rt 37 West P.O. Box 71			P.O. Number:	Project Number:		
City / State / Zip:	Toms River, New Jersey, 08754-0071			Report To:	Phone: _____ Fax: _____		
Phone:	(903) 914-2737	Fax:	(903) 914-2809	Sampled by:	Paul Perrotti, Bruce Caneu		
Contact:	Larry Cohen			Reference Proposal:			

Relinquished by:	Date	Time	Received by:	Date	Time
Bruce Caneu	4/19/01	1230	Julie A Cool	4/19/01	1230

<input checked="" type="checkbox"/> Normal
<input type="checkbox"/> 5 business days Surcharges may apply
<input type="checkbox"/> Rush _____ (business days)

## Project Comments:

\* QC to include: Matrix Spike  
Matrix Spike Duplicate taken in Field. Field Notes and results attached.  
Duplicate

<input type="checkbox"/> RIAL USE ONLY:
<input type="checkbox"/> Pick-Up Only
<input checked="" type="checkbox"/> RIAL Sampled
<input checked="" type="checkbox"/> Shipped on Ice
RIAL W.O. # 4-4327

**APPENDIX C**  
**TIME-SERIES**  
**FOR**  
**UPGRADIENT WELLS**

**Table 3**  
**UPGRADIENT WELLS**  
**Cumulative Results for Chemicals Of Concern**  
**(Units in ppb)**

Well No.	Date Sampled	1,2-Dichloro-benzene	Chloro-benzene	o-Chloro-toluene	Toluene	Xylenes
MPS		94	1700	1500	1700	76
MW-004S	6-Mar-96	89	210	1700	2100	300
MW-004S	1-May-96	88	130	1200	1500	160
MW-004S	9-Apr-97	43	44	160	88	100
MW-004S	8-Oct-97	72	41	660	370	480
MW-004S	28-Apr-98	40	220	1200	2700	130
MW-004S	15-Oct-98	100 U	580	300	100 U	100 U
MW-004S	16-Apr-99	50 U	50 U	50	50 U	730
MW-004S	27-Sep-99	31	93	400	20 U	79
MW-004S	20-Apr-00	74	170	20 U	84	20 U
MW-004S	22-Sep-00	30 U	240	30 U	30 U	30 U
MW-004S	19-Apr-01	1 U	1	36	1 U	2
MW-012S	5-Mar-96	4.3 U	2.4 J	2 U	2.8 U	75
MW-012S	2-May-96	4.3 U	1.5 J	2 U	2.8 U	42
MW-012S	10-Apr-97	1 U	1 U	1 U	1 U	1 U
MW-012S	8-Oct-97	1 U	1 U	1 U	1 U	12
MW-012S	28-Apr-98	1 U	1 U	1 U	1 U	65
MW-012S	15-Oct-98	10 U	10 U	10 U	10 U	87
MW-012S	16-Apr-99	10 U	12	10 U	10 U	24
MW-012S	27-Sep-99	58	1 U	1 U	1 U	6
MW-012S	20-Apr-00	1 U	1 U	1 U	1 U	1
MW-012S	22-Sep-00	1 U	2	1 U	1 U	1
MW-012S	18-Apr-01	1 U	1 U	1 U	1 U	25
MW-021S	6-Mar-96	43 U	30 U	480	12 J	34 U
MW-021S	1-May-96	22 U	5 J	820	15	17 U
MW-021S	10-Apr-97	1 U	1 U	120	1	6
MW-021S	27-Oct-97	30	49	24000	20000	1600
MW-021S	28-Apr-98	1 U	1 U	54	1 U	1 U
MW-021S	15-Oct-98	100 U	100 U	7900	2500	580
MW-021S	15-Apr-99	50 U	50 U	9000	50 U	520
MW-021S	27-Sep-99	40 U	40 U	8100	40 U	110
MW-021S	20-Apr-00	40 U	40 U	11000	40 U	40 U
MW-021S	22-Sep-00	500 U	500 U	16000	500 U	500 U
MW-021S	19-Apr-01	10 U	10 U	440	10 U	10 U

MPS = Media Protection Standard

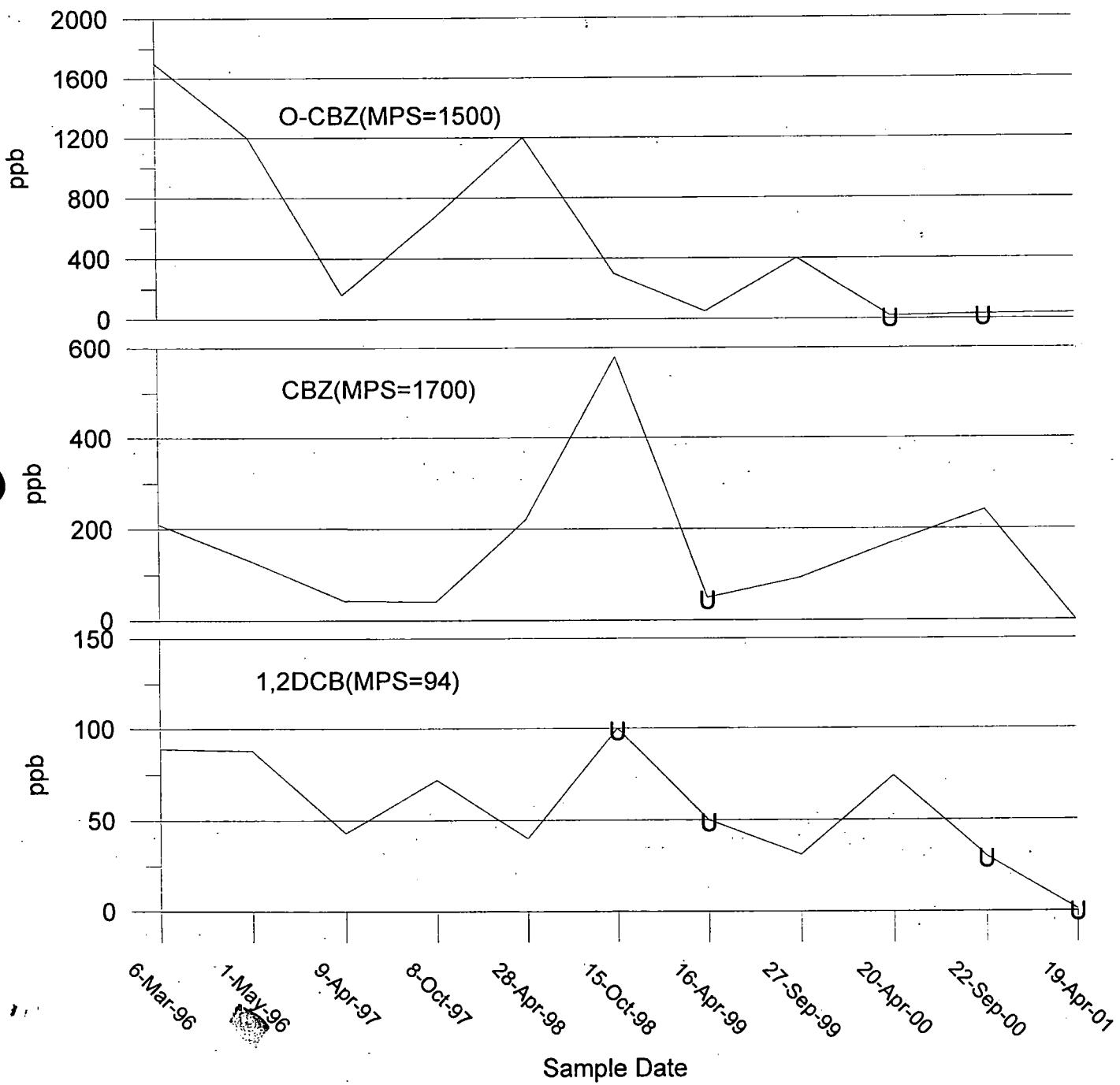
U = Nondetect with detection limit given

J = Estimated value

Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well MW-004S  
Upgradient Well

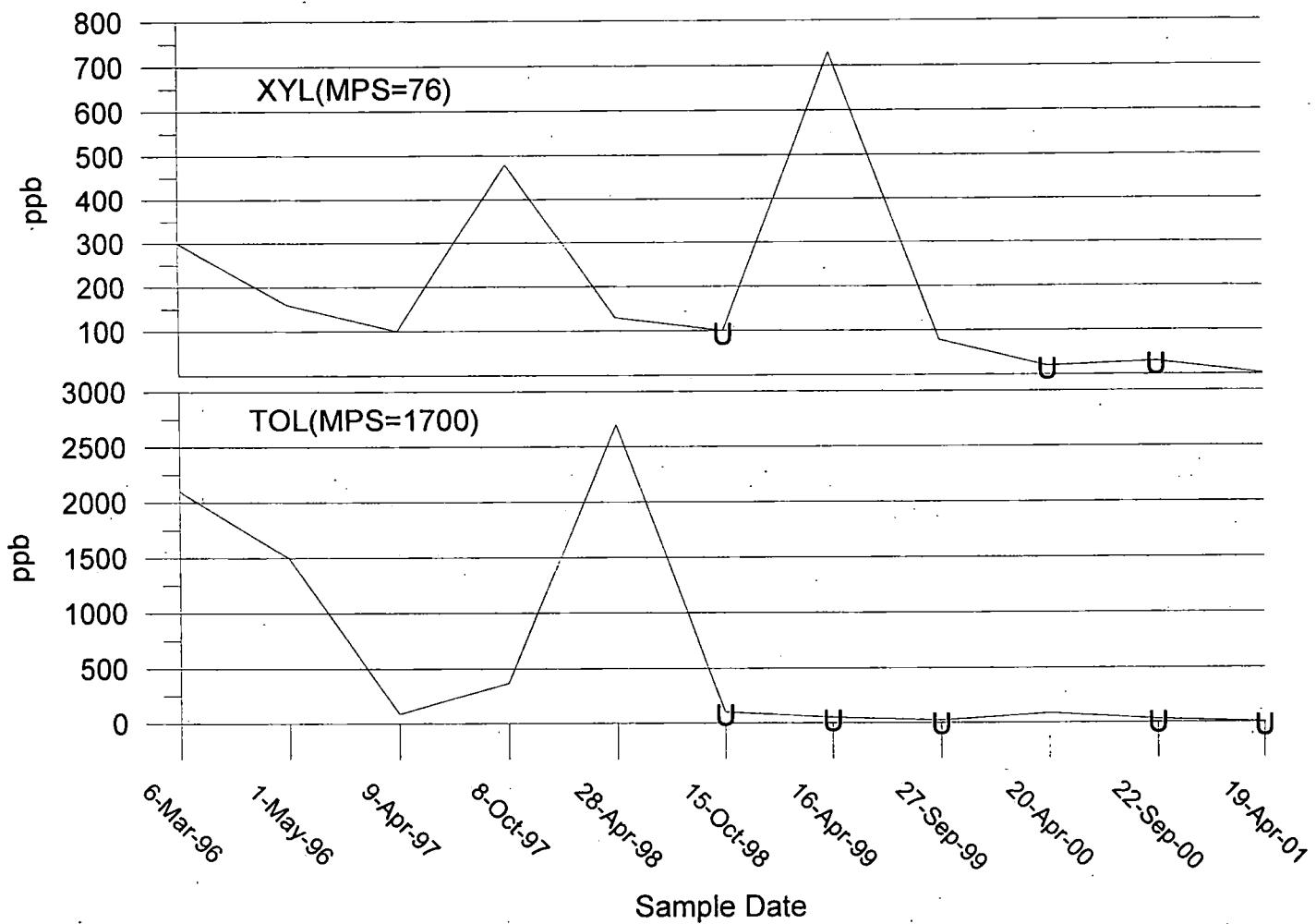
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well MW-004S  
Upgradient Well

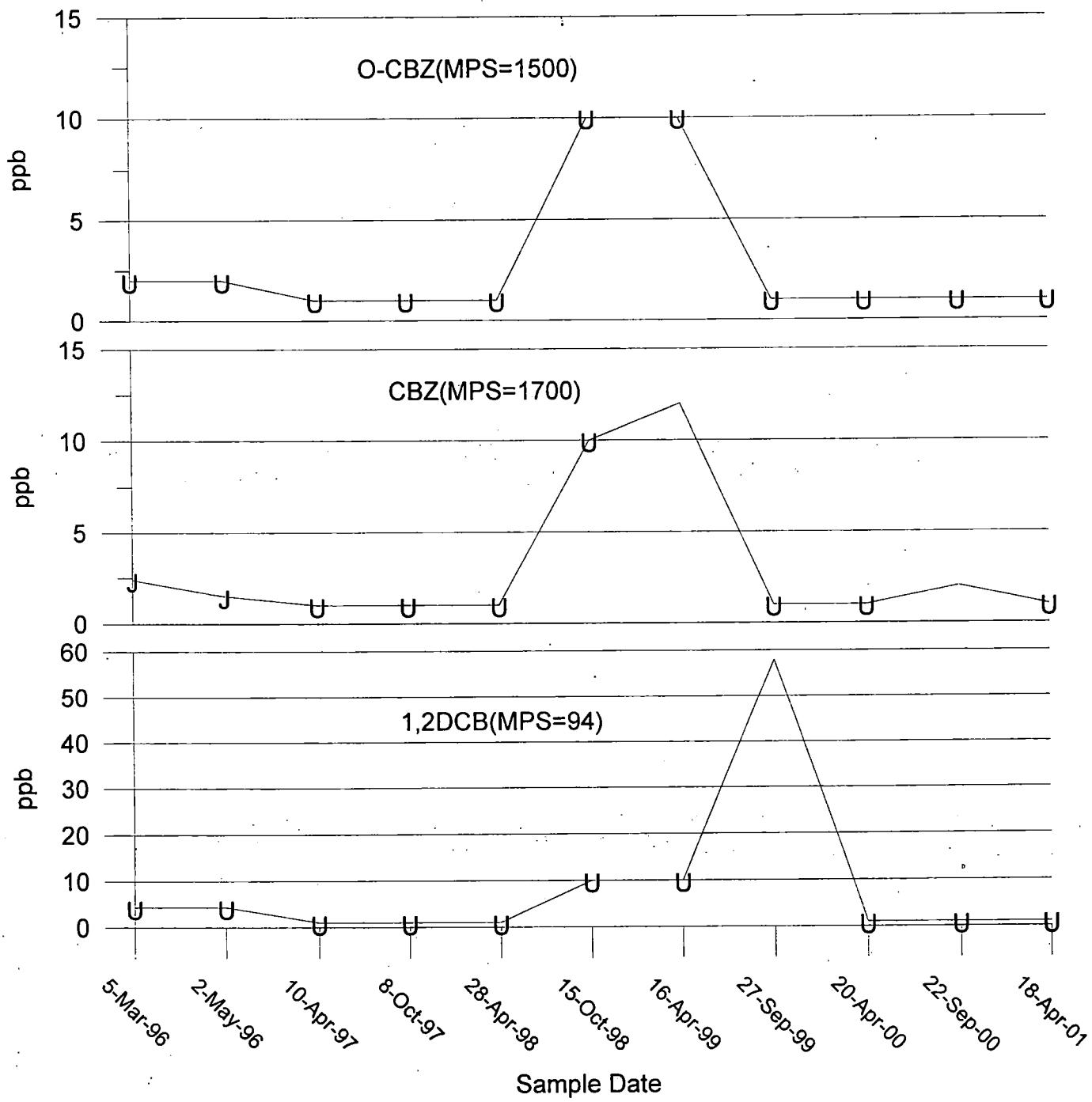
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"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well MW-012S  
Upgradient Well

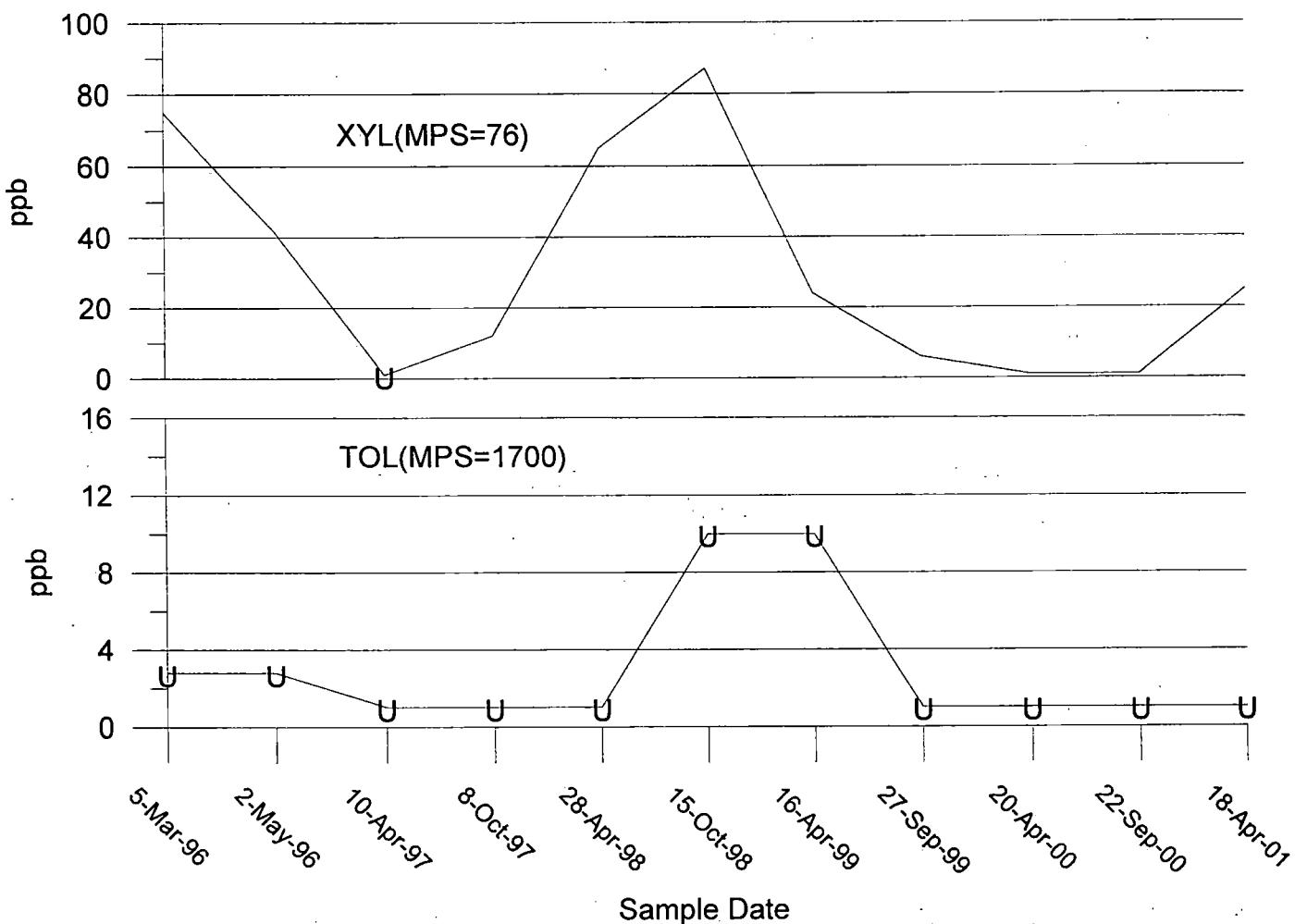
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"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well MW-012S  
Upgradient Well

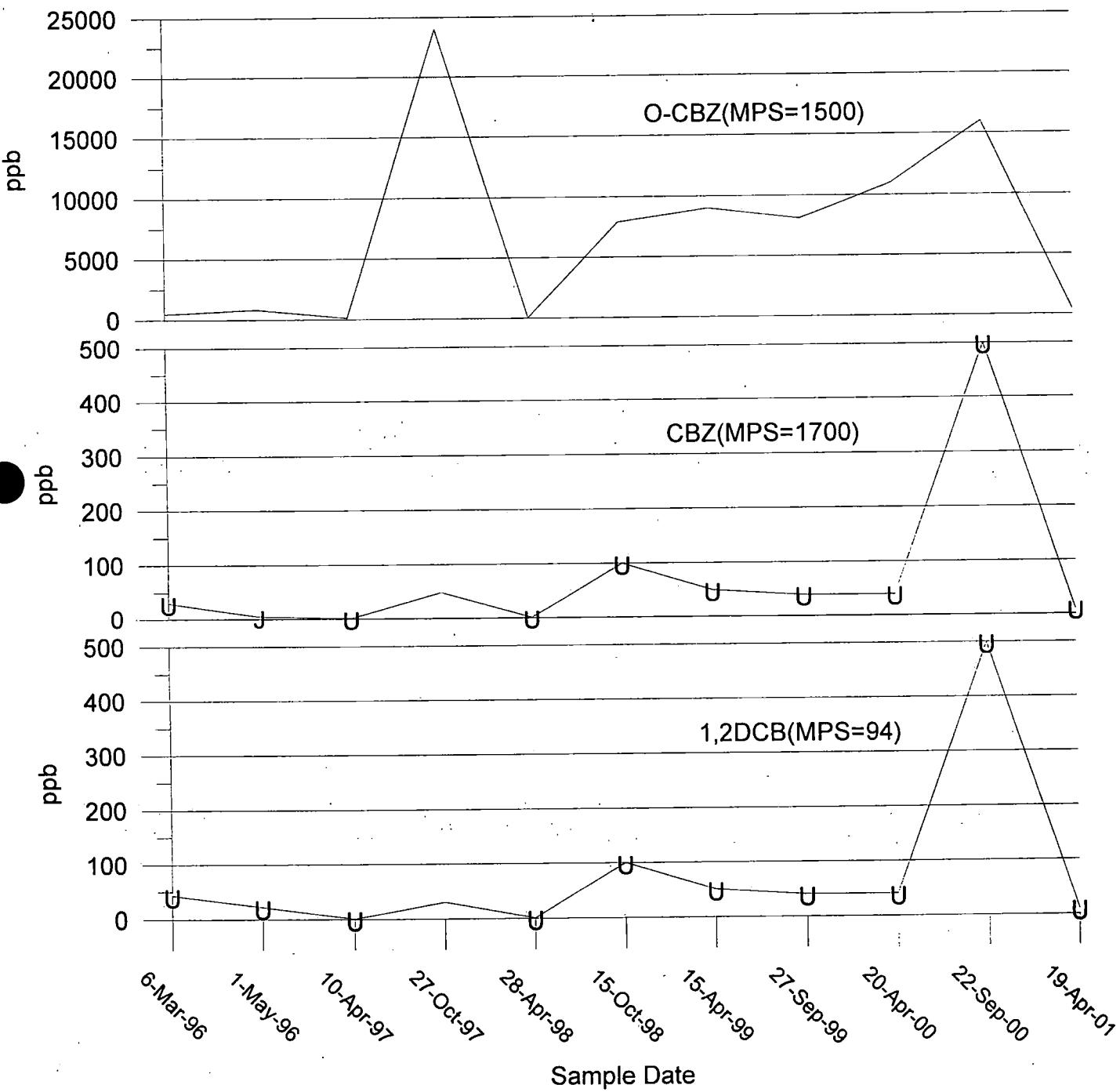
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well MW-021S  
Upgradient Well

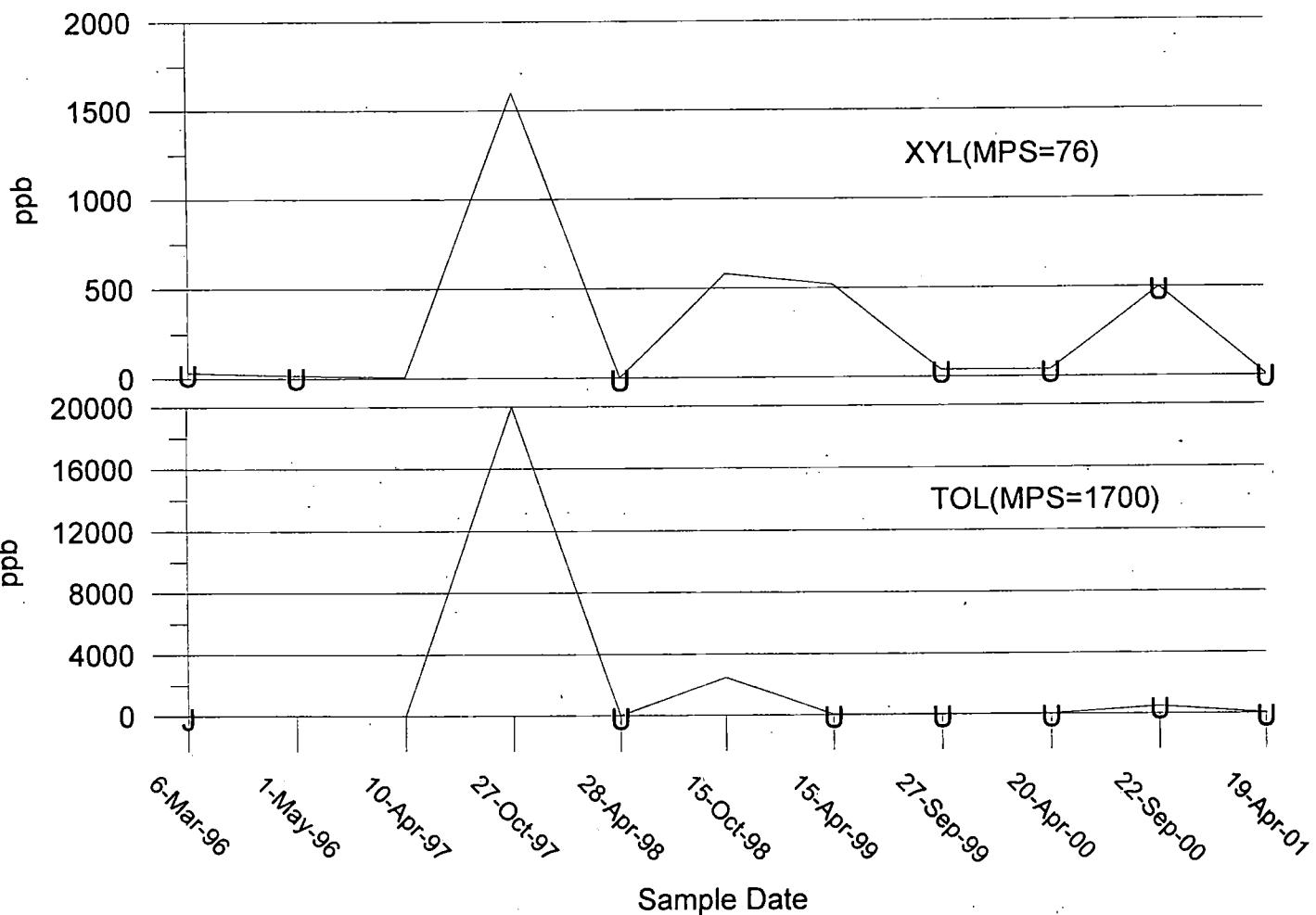
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well MW-021S  
Upgradient Well

"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



**APPENDIX D**  
**TIME-SERIES GRAPHS**  
**FOR**  
**BULKHEAD WELLS**

**Table 4**  
**BULKHEAD WELLS**  
**Cumulative Results for Chemicals Of Concern**  
**(Units in ppb)**

Well No.	Date Sampled	1,2-Dichloro-benzene	Chloro-benzene	o-Chloro-toluene	Toluene	Xylenes
MPS		94	1700	1500	1700	76
MW-001S	6-Mar-96	22 U	2000	10 U	16	18
MW-001S	1-May-96	110 U	5500	50 U	30 J	85 U
MW-001S	10-Apr-97	1	93	1 U	9	7
MW-001S	7-Oct-97	1	640	30	23	2
MW-001S	27-Apr-98	1 U	2800	1 U	1	2
MW-001S	15-Oct-98	100 U	2800	100 U	100 U	
MW-001S	15-Apr-99	50 U	50	50 U	50 U	50 U
MW-001S	27-Sep-99	40 U	2300	40 U	40 U	40 U
MW-001S	20-Apr-00	40 U	40 U	40 U	40 U	40 U
MW-001S	21-Sep-00	450	2500	1 U	1 U	1 U
MW-001S	18-Apr-01	10 U	1600	10 U	10 U	10 U
MW-002S	5-Mar-96	340	3200	50 U	200	85 U
MW-002S	30-Apr-96	44 J	2500	50 U	52 J	85 U
MW-002S	8-Apr-97	20	64	1 U	46	18
MW-002S	7-Oct-97	90	440	100	97	31
MW-002S	27-Apr-98	22	500	1 U	88	28
MW-002S	15-Oct-98	28	5200	1 U	92	34
MW-002S	15-Apr-99	140	2260	10 U	420	33
MW-002S	27-Sep-99	43	2800	40 U	40 U	40 U
MW-002S	20-Apr-00	1340	12000	150	830	120
MW-002S	21-Sep-00	930	9400	500 U	500 U	500 U
MW-002S	18-Apr-01	50 U	1400	50 U	95	50 U
P-035S	8-Apr-97	22	74	1 U	4	12
P-035S	7-Oct-97	240	710	2	10	12
P-035S	27-Apr-98	42	360	1 U	2	10
P-035S	15-Oct-98	140	2100	10 U	130	80
P-035S	15-Apr-99	20	480	10 U	10 U	10 U
P-035S	27-Sep-99	40 U	40 U	40 U	40 U	40 U
P-035S	20-Apr-00	4580	77000	300	160	56
P-035S	21-Sep-00	6600	11000	500 U	500 U	500 U
P-035S	18-Apr-01	2000	2100	67	50 U	50 U
P-036S	6-Mar-96	22 U	440	10 U	14 U	17 U
P-036S	1-May-96	22 U	460	30	14 U	17 U
P-036S	8-Apr-97	1 U	72	1 U	1 U	2
P-036S	7-Oct-97	1 U	35	9	2	1 U
P-036S	27-Apr-98	1 U	260	1 U	1 U	1 U
P-036S	15-Oct-98	1 U	230	1 U	1 U	1
P-036S	15-Apr-99	10 U	200	10 U	10 U	10 U
P-036S	27-Sep-99	10 U	450	10 U	10 U	10 U
P-036S	20-Apr-00	1 U	290	1 U	1 U	1 U
P-036S	21-Sep-00	30 U	300	30 U	30 U	30 U
P-036S	18-Apr-01	10 U	280	10 U	10 U	10 U
P-037S	9-Apr-97	2 U	54	16	1 U	1
P-037S	8-Oct-97	2	50	13	1 U	1 U
P-037S	28-Apr-98	2	420	8	1 U	1 U
P-037S	15-Oct-98	30 U	540	30 U	30 U	30 U
P-037S	15-Apr-99	10 U	210	10 U	10 U	10 U
P-037S	27-Sep-99	10 U	660	10 U	10 U	10 U
P-037S	20-Apr-00	1 U	460	5	1 U	1 U
P-037S	21-Sep-00	30 U	370	30 U	30 U	30 U
P-037S	18-Apr-01	10 U	330	10 U	10 U	10 U
P-038S	6-Mar-96	4.3 U	2.4 J	2 U	1.3 J	3.4 U
P-038S	1-May-96	4.3 U	1.2 J	2 U	2.8 U	3.4 U
P-038S	9-Apr-97	1 U	1 U	1 U	1 U	1 U
P-038S	8-Oct-97	1 U	1 U	1 U	1 U	1 U
P-038S	28-Apr-98	1 U	1 U	1 U	1 U	1 U
P-038S	15-Oct-98	1 U	2	1 U	1 U	1 U
P-038S	15-Apr-99	1 U	1 U	1 U	1 U	1 U
P-038S	27-Sep-99	1 U	1	1 U	1 U	1 U
P-038S	20-Apr-00	1 U	1 U	1 U	1 U	1 U
P-038S	21-Sep-00	1 U	1	1 U	1 U	1 U
P-038S	18-Apr-01	1 U	1 U	1 U	1 U	1 U

MPS = Media Protection Standard

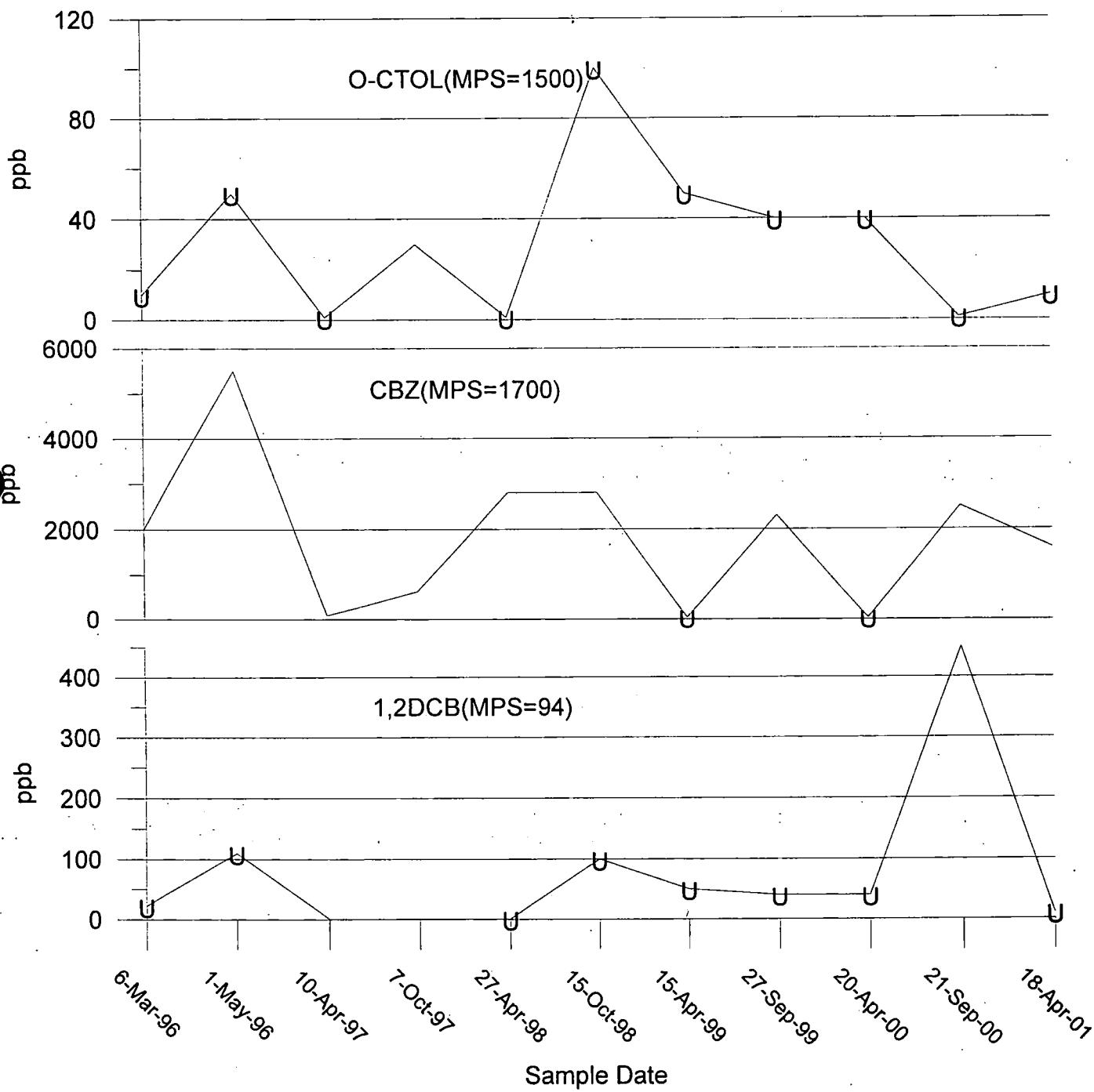
U = Nondetect with detection limit given

J = Estimated value

Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well MW-001S  
Along Bulkhead

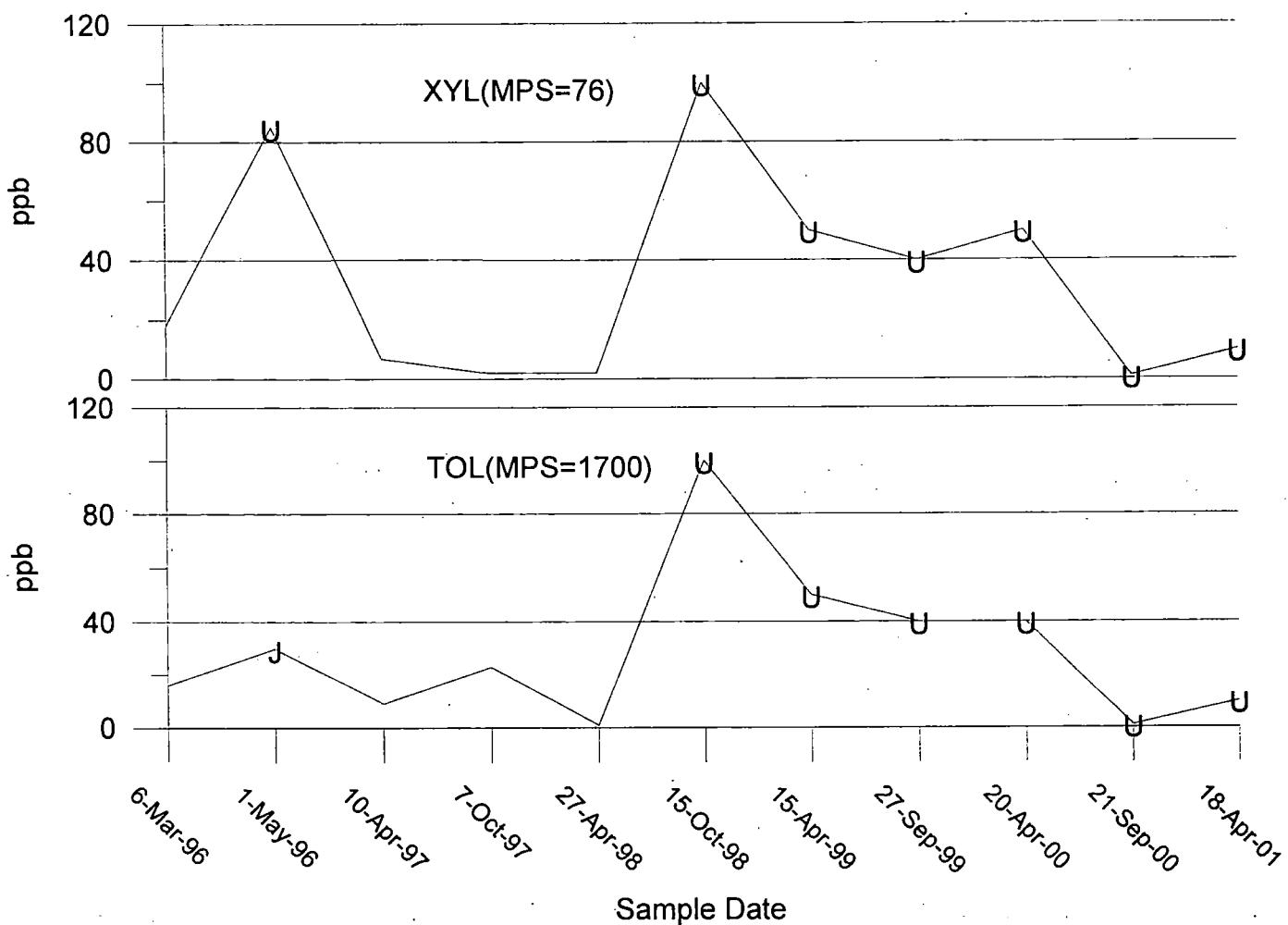
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well MW-001S  
Along Bulkhead

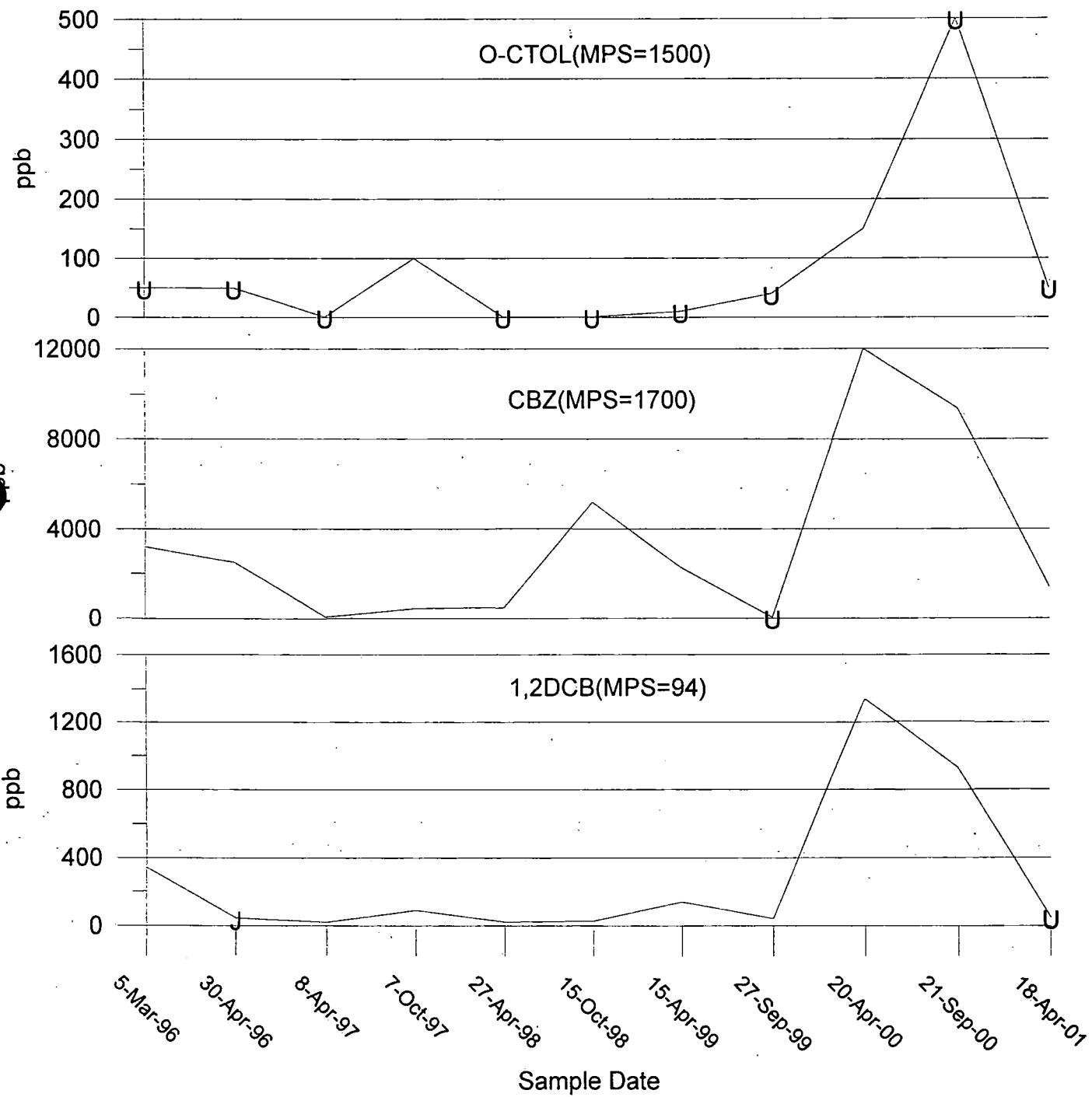
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Séries Graph  
Semiannual Monitoring

Well MW-002S  
Along Bulkhead

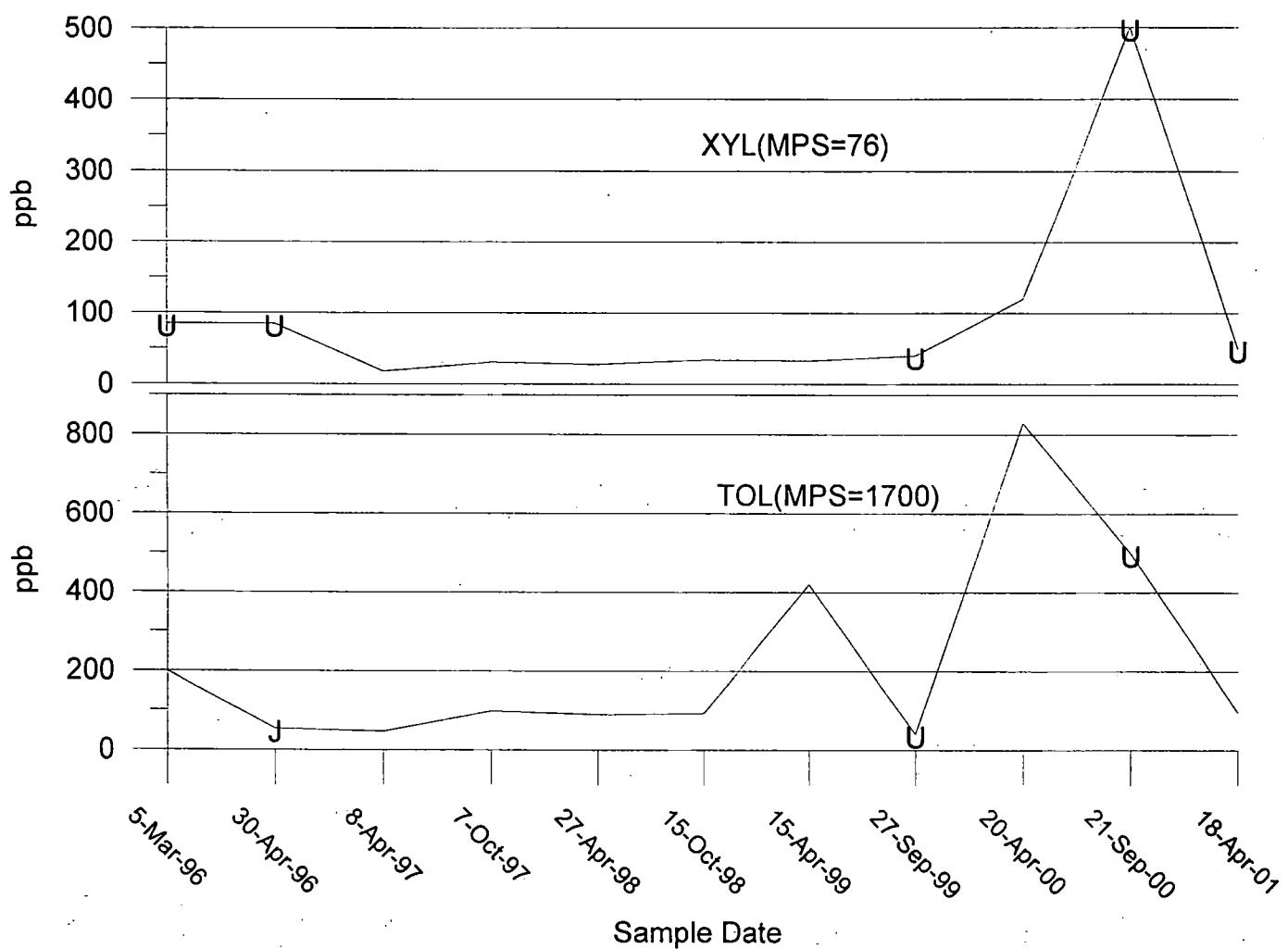
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semianual Monitoring

Well MW-002S  
Along Bulkhead

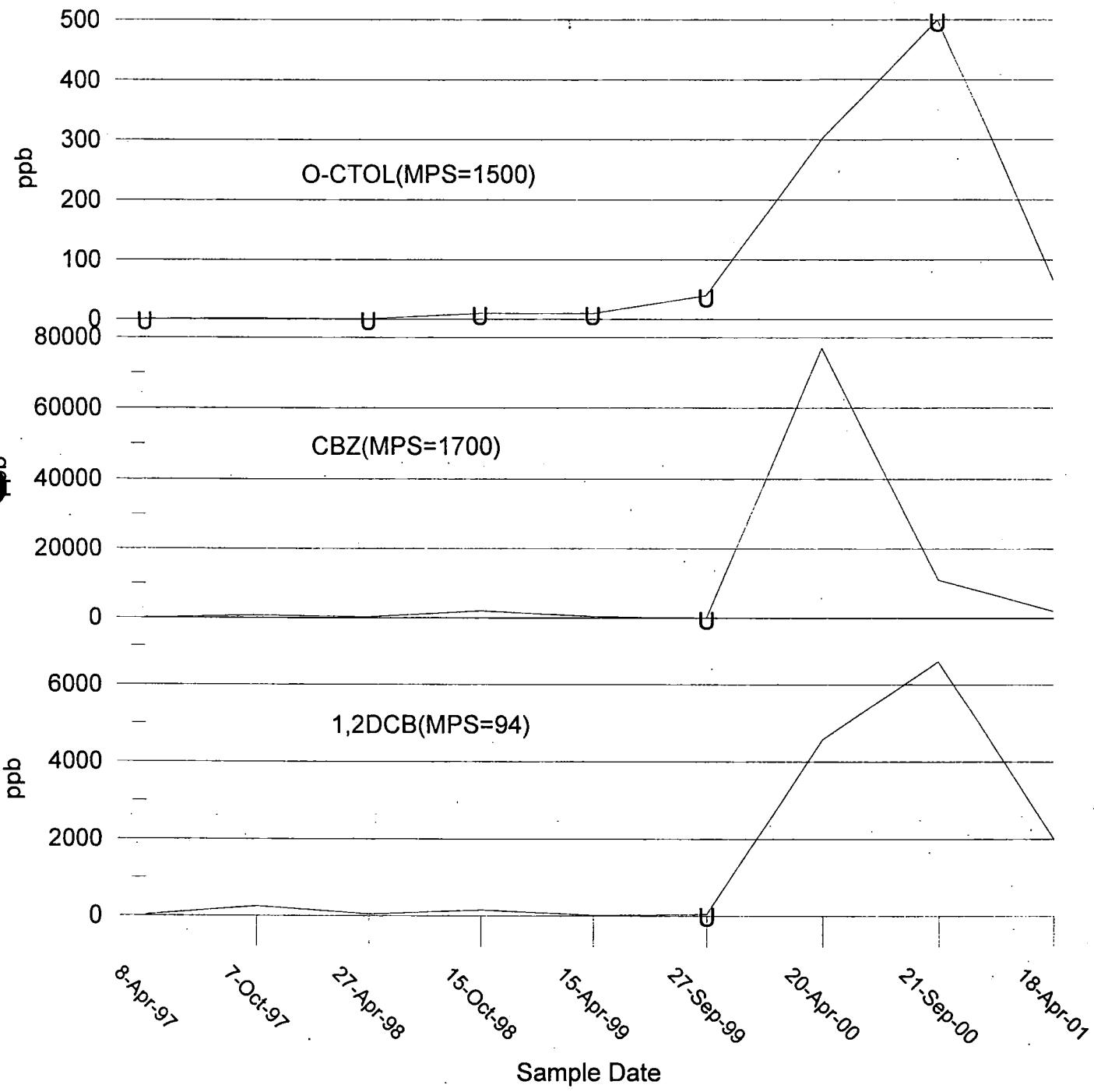
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well P-035S  
Along Bulkhead

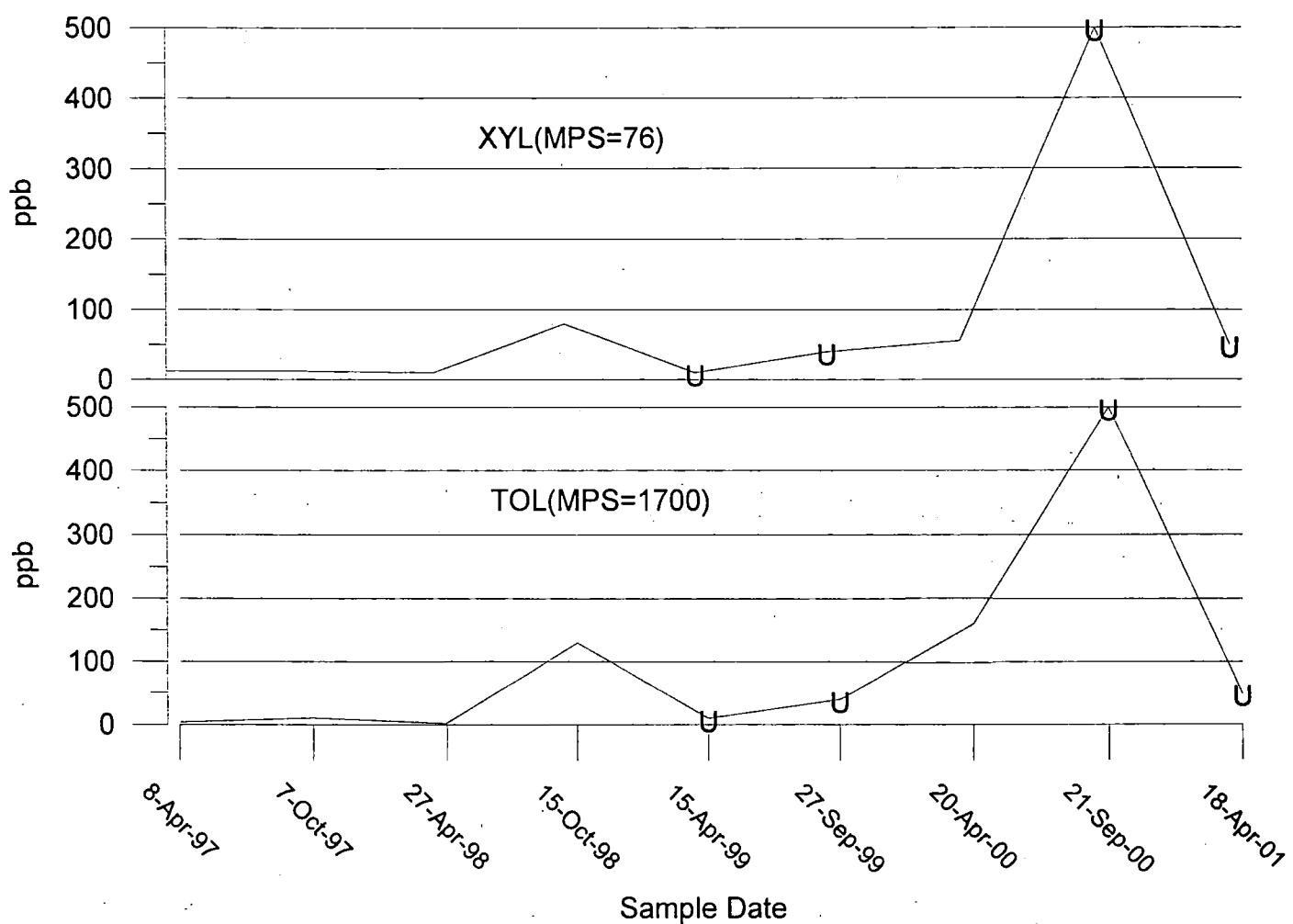
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well P-035S  
Along Bulkhead

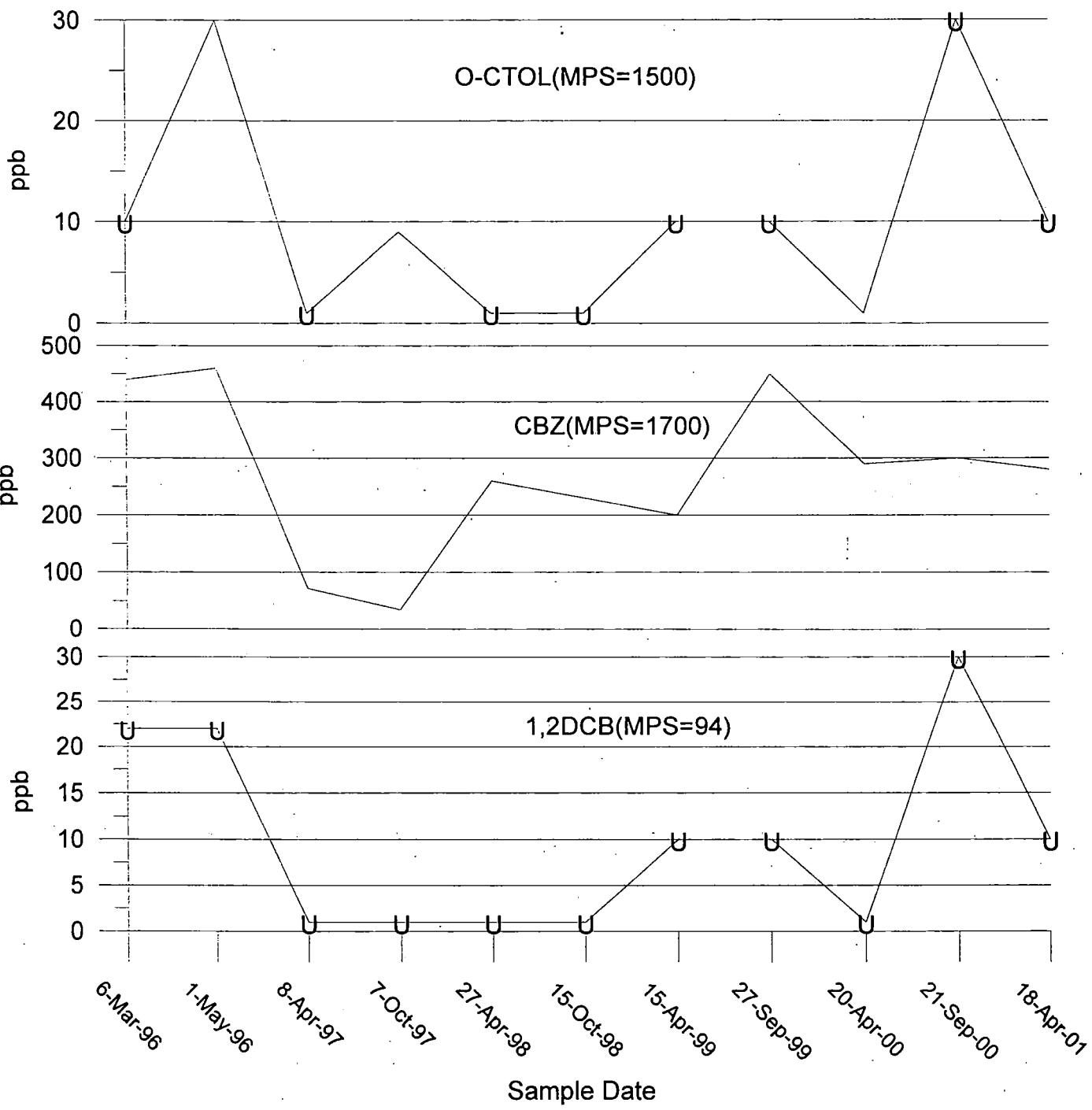
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"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semianual Monitoring

Well P-036S  
Along Bulkhead

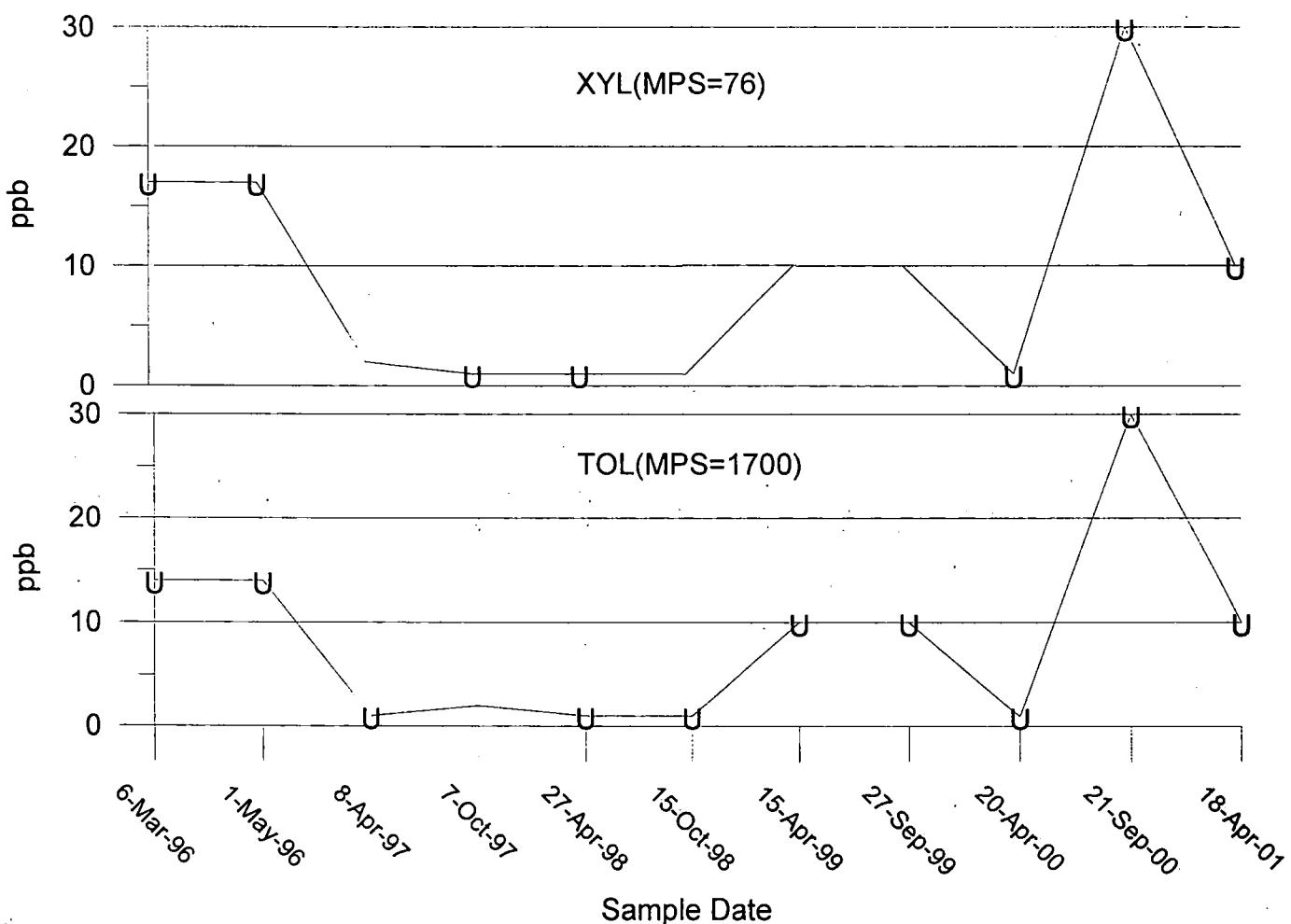
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well P-036S  
Along Bulkhead

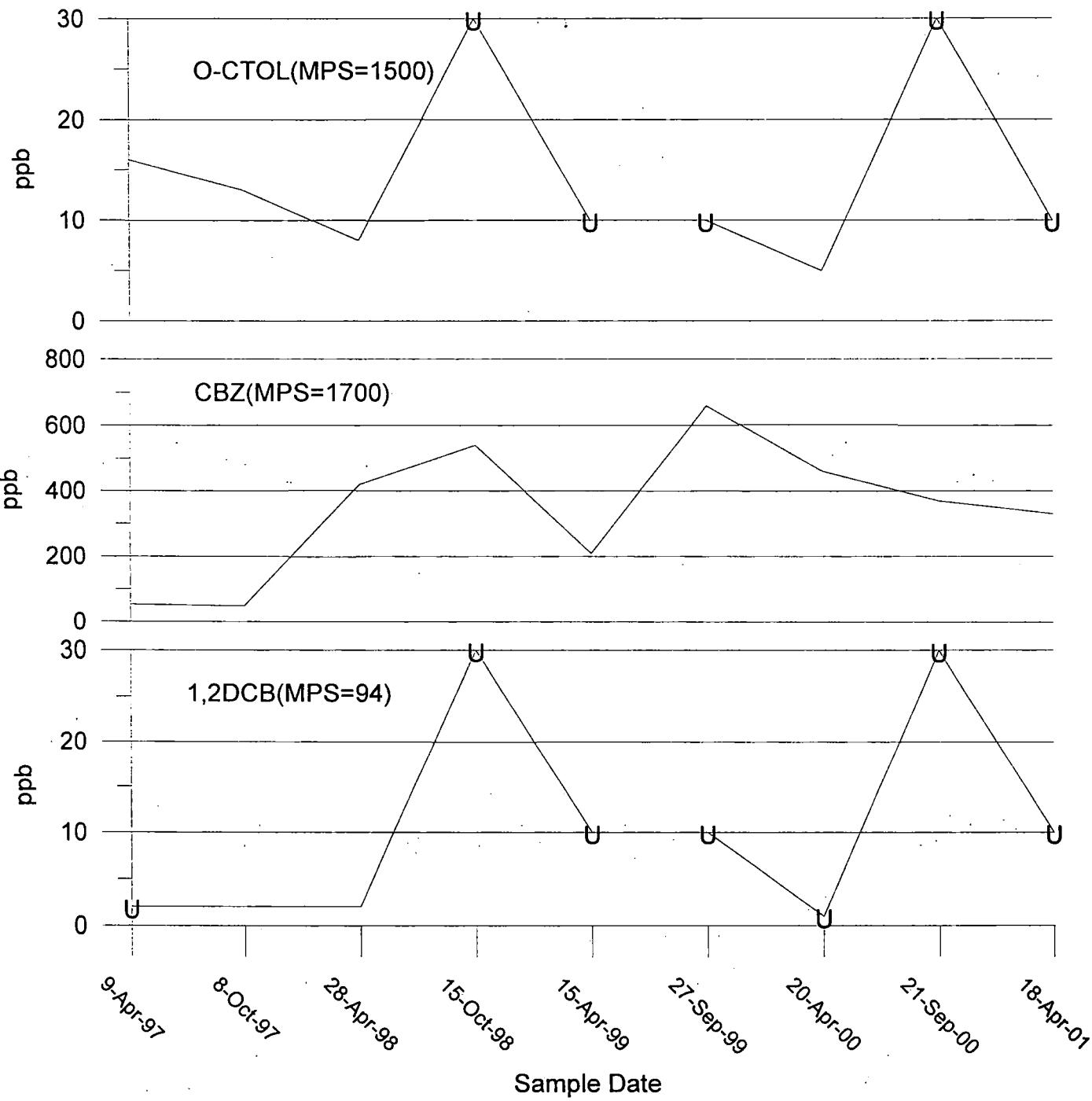
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well P-037S  
Along Bulkhead

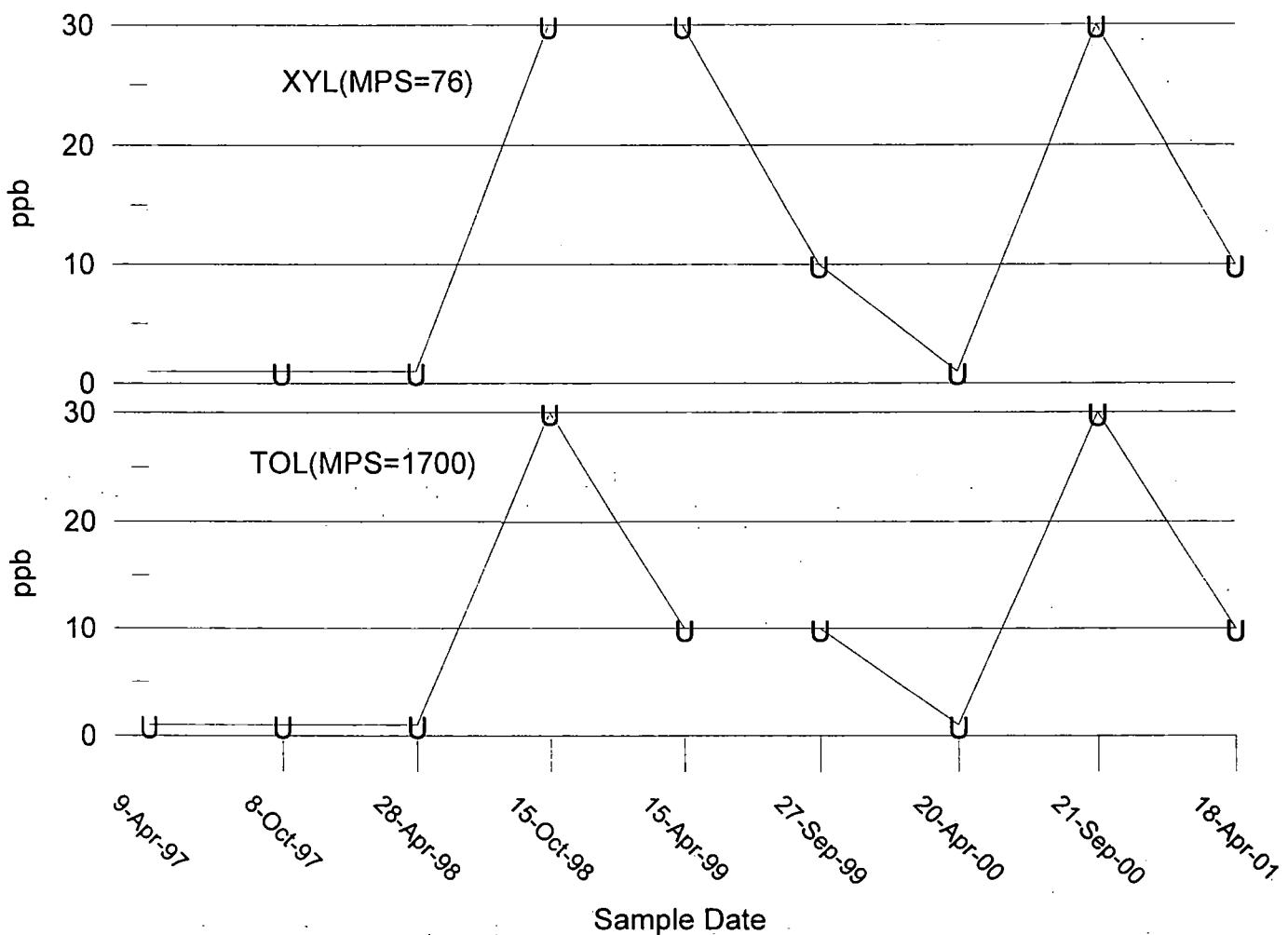
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"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well P-037S  
Along Bulkhead

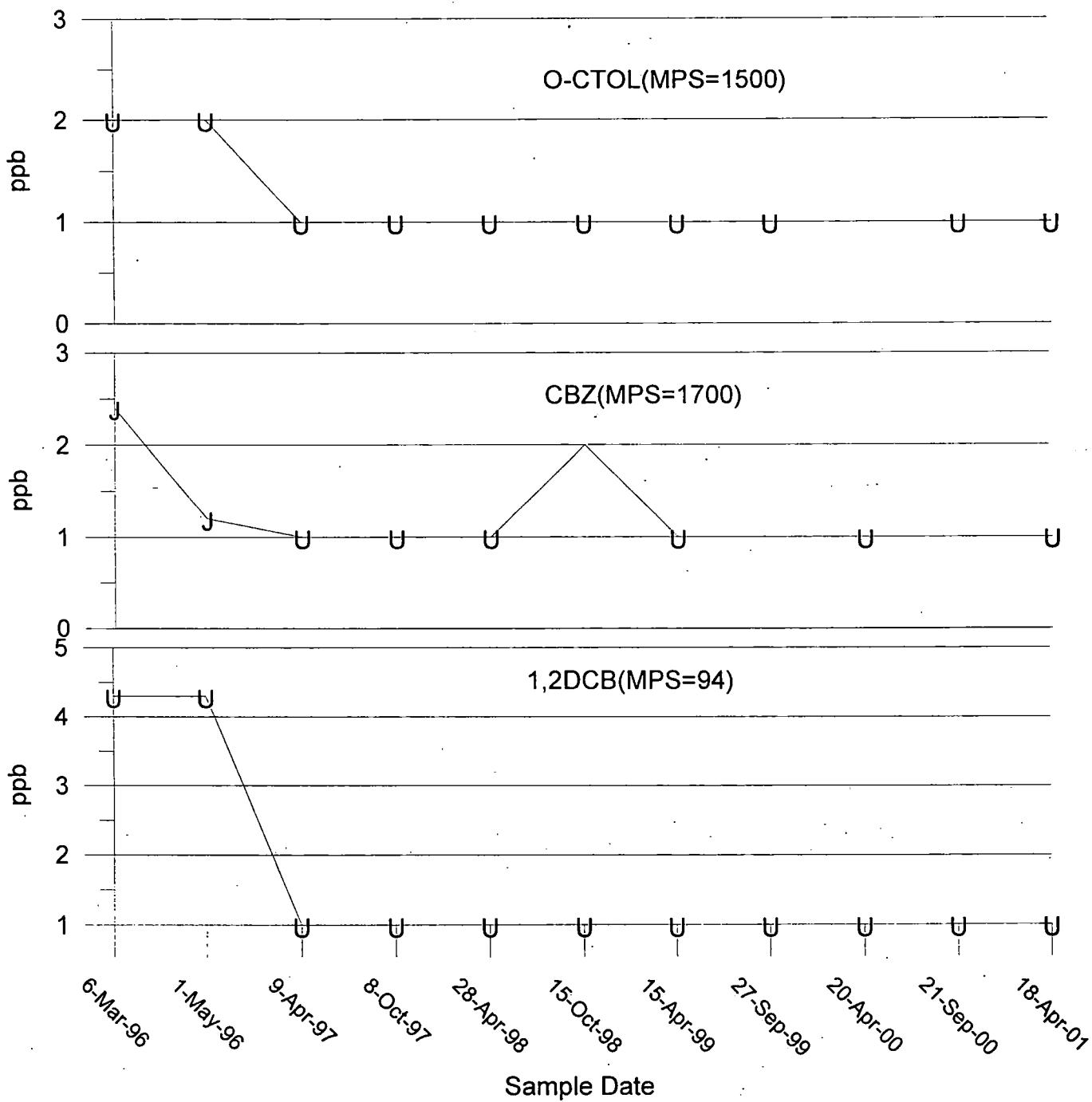
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well P-038S  
Along Bulkhead

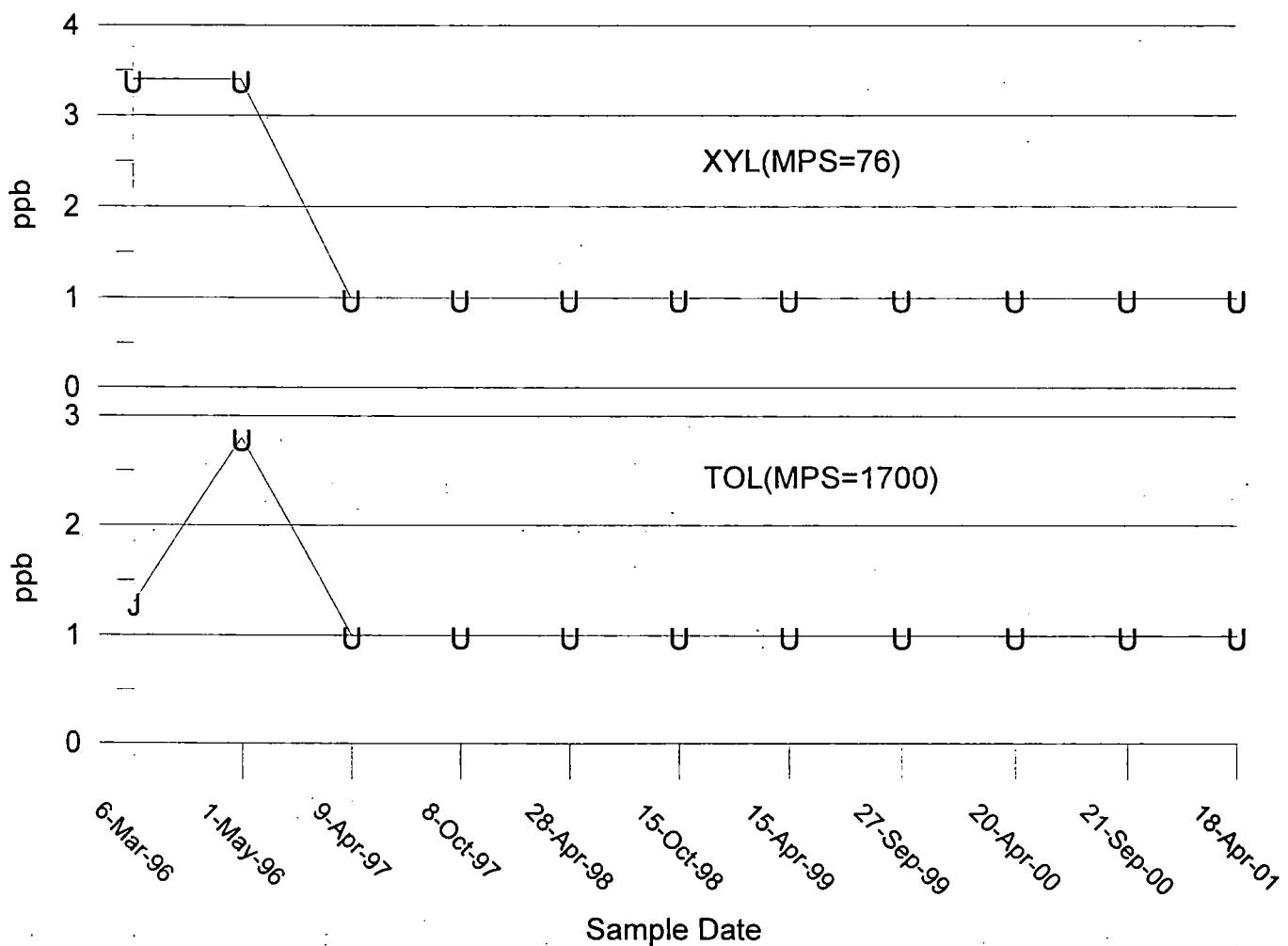
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"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semianual Monitoring

Well P-038S  
Along Bulkhead

"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



**APPENDIX E**  
**TIME-SERIES GRAPHS**  
**FOR**  
**IN-RIVER WELLS**

**Table 5**  
**IN-RIVER WELLS**  
**Cumulative Results for Chemicals Of Concern**  
**(Units in ppb)**

Well No.	Date Sampled	1,2-Dichloro-benzene	Chloro-benzene	o-Chloro-toluene	Toluene	Xylenes
MPS		94	1700	1500	1700	76
SW-110	6-Mar-96	54	1600	55	460	34 U
SW-110	2-May-96	63 J	1600	40 U	220	68 U
SW-110	10-Apr-97	23	110	1	62	8
SW-110	8-Oct-97	1 U	1 U	1 U	1 U	1 U
SW-110	27-Apr-98	21	1100	2	170	6
SW-110	15-Oct-98	100 U	440	100 U	100 U	100 U
SW-110	15-Apr-99	50 U	670	50 U	50 U	50 U
SW-110	27-Sep-99	40 U	2500	40 U	220	40 U
SW-110	20-Apr-00	47	20 U	91	380	20 U
SW-110	21-Sep-00	100 U	2000	100 U	820	100 U
SW-110	18-Apr-01	1 U	3	1 U	1 U	1 U
SW-120	5-Mar-96	4.3 U	63	2 U	2.8 U	3.4 U
SW-120	30-Apr-96	4.3 U	70	2 U	2.8 U	3.4 U
SW-120	8-Apr-97	1 U	43	1 U	1 U	1 U
SW-120	7-Oct-97	1	39	39	31	2
SW-120	27-Apr-98	1 U	54	1 U	1 U	1 U
SW-120	15-Oct-98	1 U	36	1 U	1 U	1 U
SW-120	15-Apr-99	10 U	92	10 U	10 U	10 U
SW-120	27-Sep-99	10 U	68	10 U	10 U	10 U
SW-120	20-Apr-00	1 U	67	1 U	1 U	1 U
SW-120	21-Sep-00	9100	1800	500 U	500 U	500 U
SW-120	18-Apr-01	1 U	58	1 U	1 U	1 U
SW-130	6-Mar-96	4.3 U	3 U	6.5	2.8 U	3.4 U
SW-130	1-May-96	4.3 U	3 U	12	2.8 U	3.4 U
SW-130	9-Apr-97	1 U	1	12	1 U	1 U
SW-130	7-Oct-97	1 U	1 U	2	1 U	1 U
SW-130	27-Apr-98	1 U	27	14	1 U	1 U
SW-130	15-Oct-98	1 U	1 U	1	1 U	1 U
SW-130	15-Apr-99	1 U	5	5	1 U	1 U
SW-130	27-Sep-99	1 U	1	2	1 U	1 U
SW-130	20-Apr-00	1	10	30	1 U	1
SW-130	21-Sep-00	5 U	5 U	5 U	5 U	5 U
SW-130	19-Apr-01	1 U	1 U	1 U	1 U	1 U

MPS = Media Protection Standard

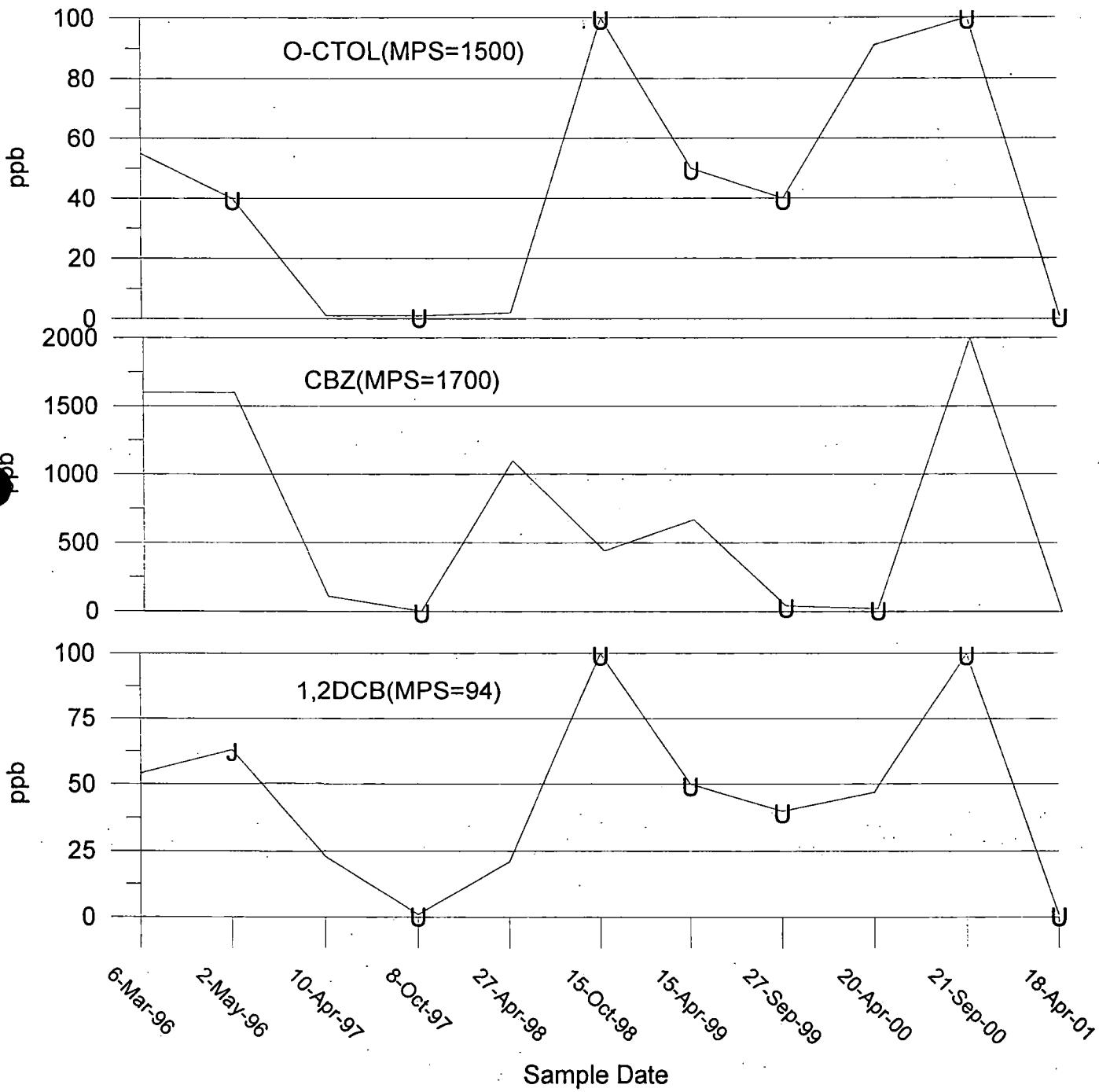
U = Nondetect with detection limit given

J = Estimated value

Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well SW-110  
In-River Wells

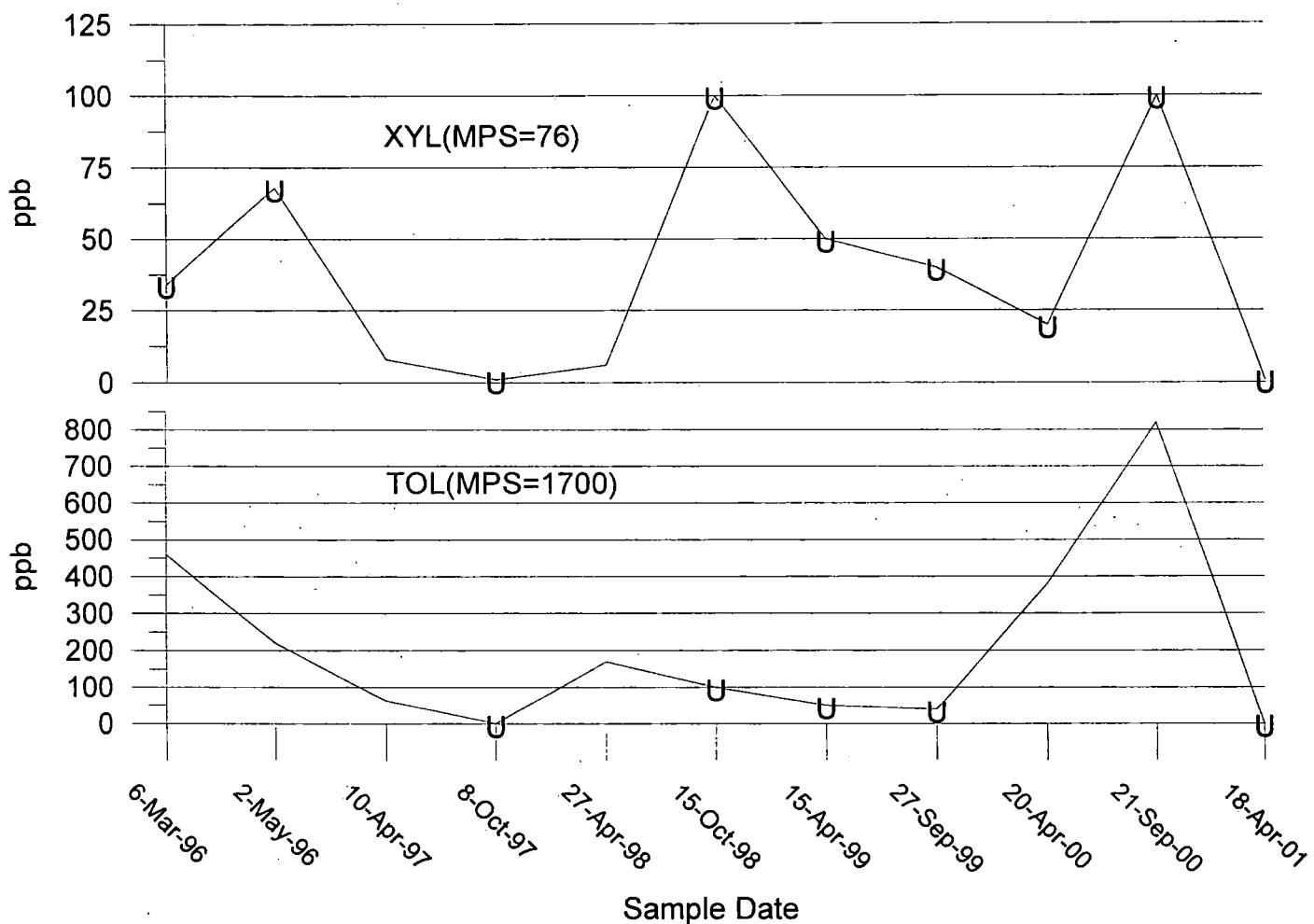
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well SW-110  
In-River Well

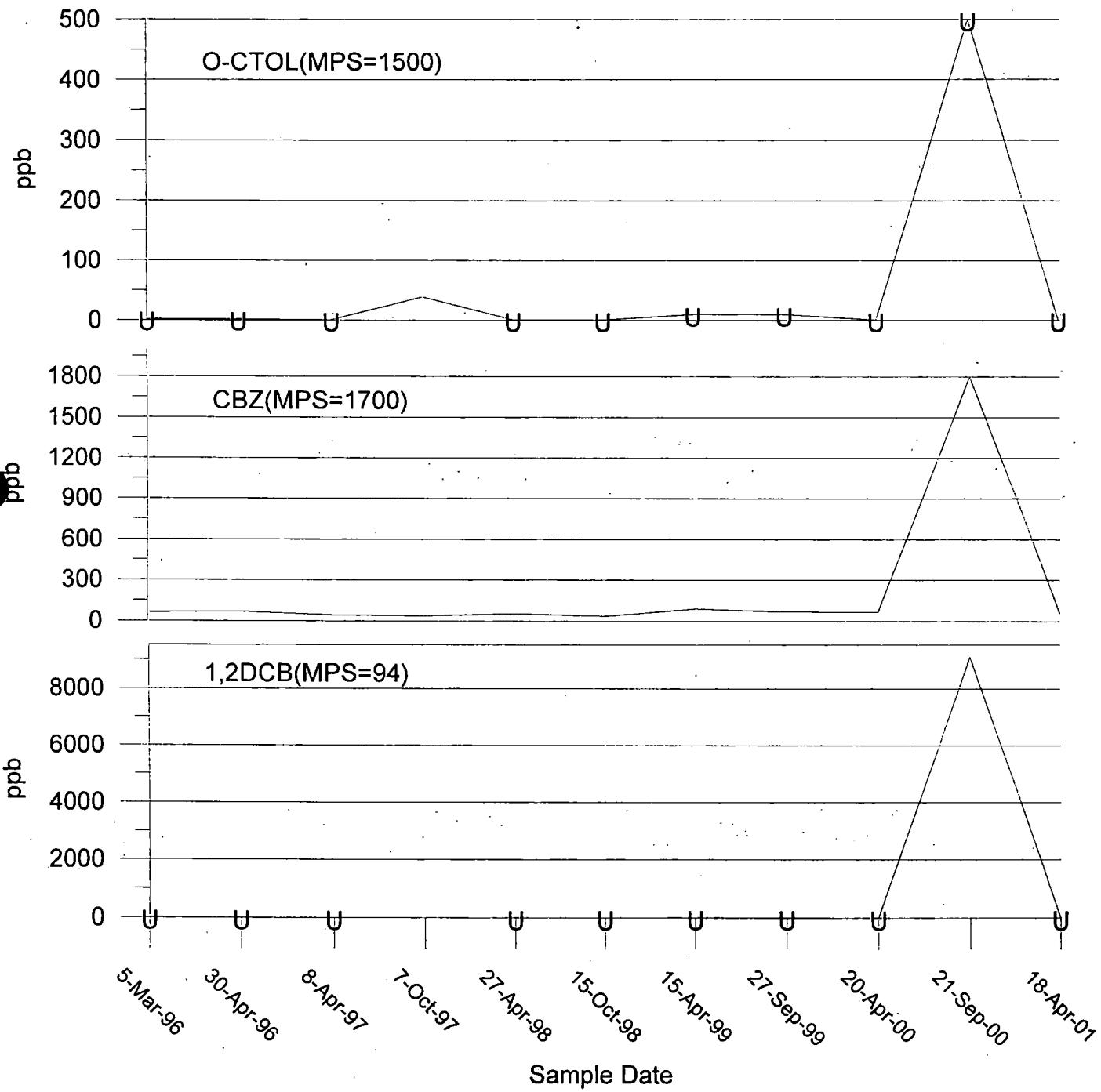
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well SW-120  
In-River Well

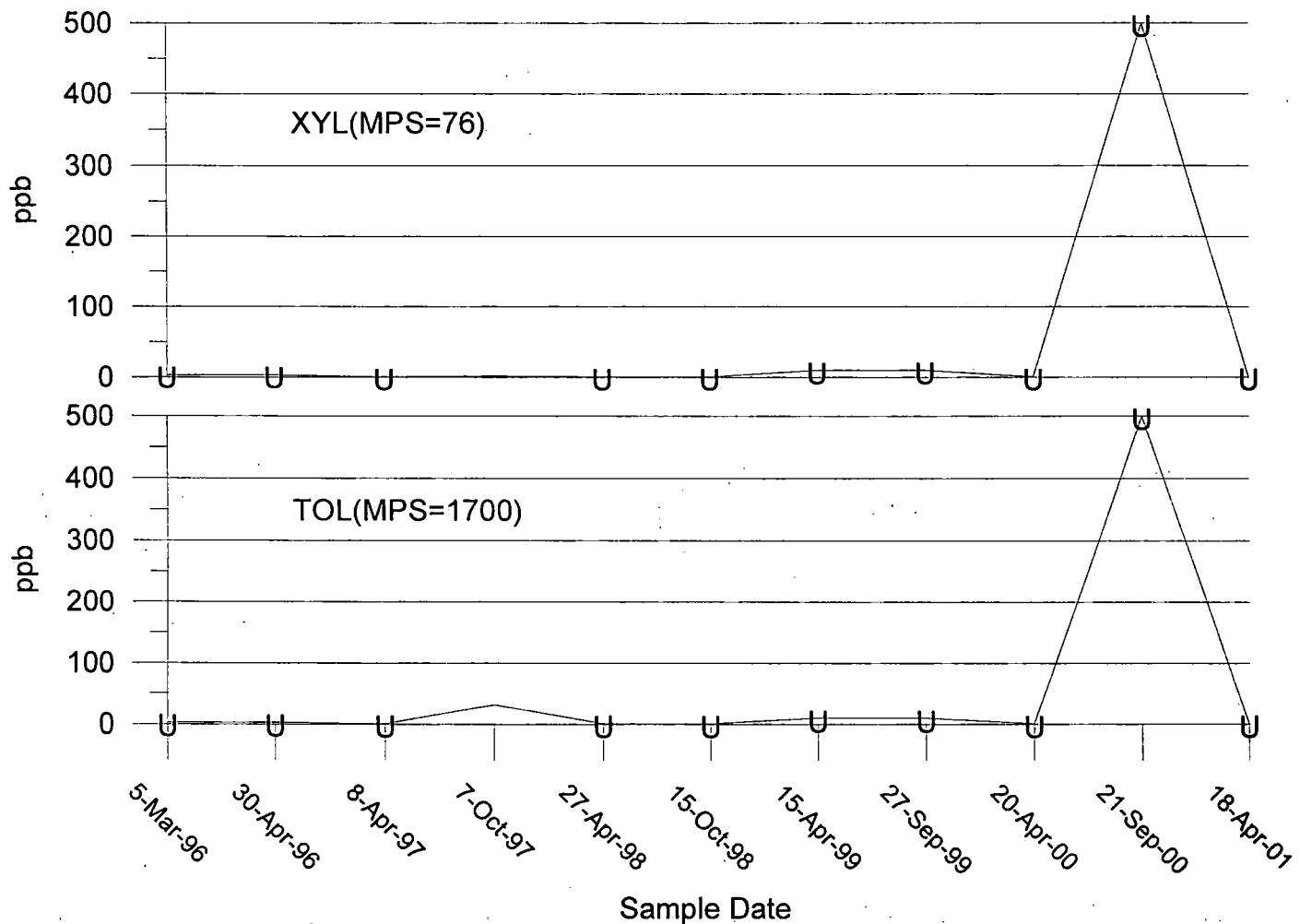
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well SW-120  
In-River Well

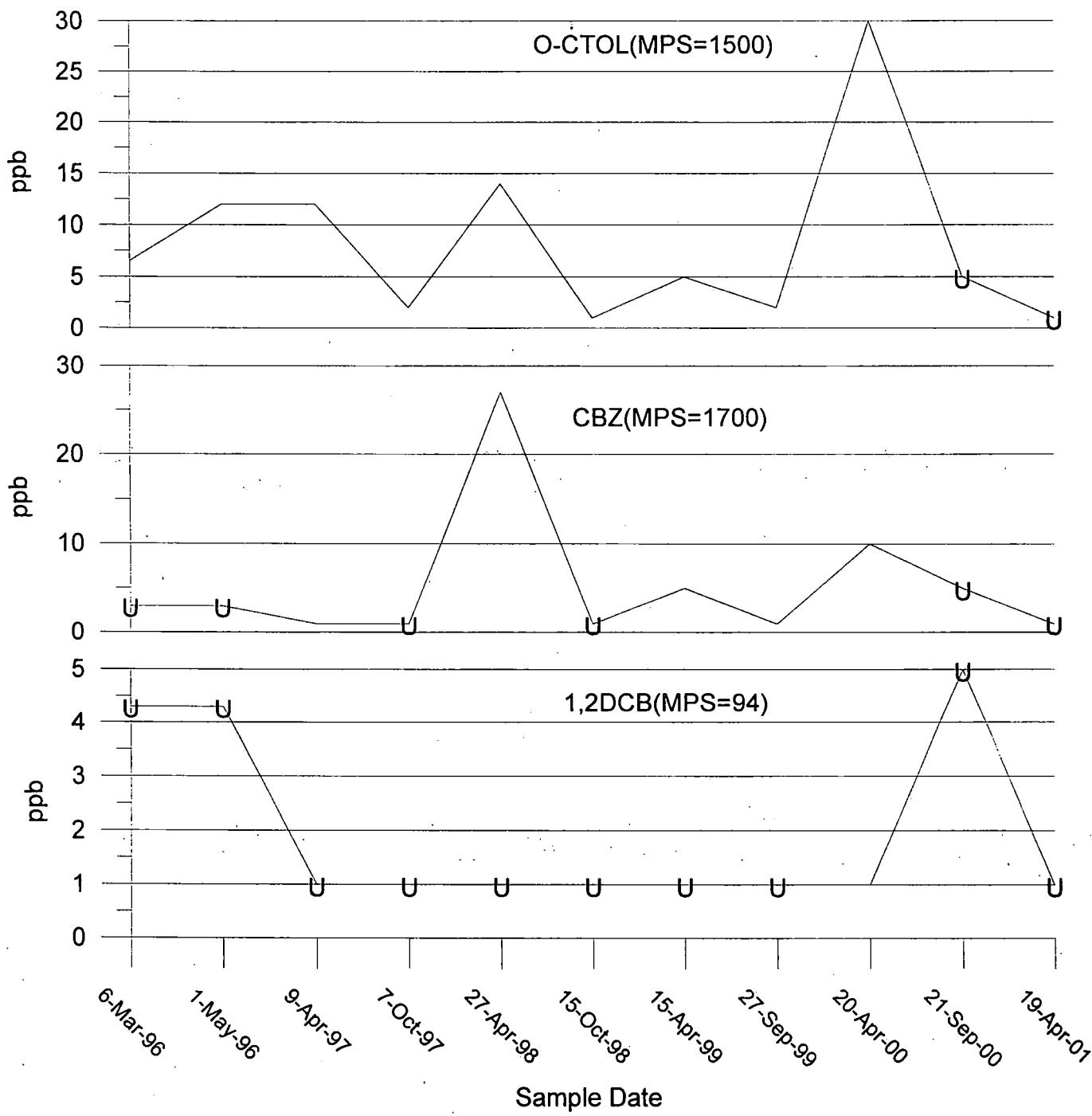
"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semianual Monitoring

Well SW-130  
In-River Well

"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp  
Cranston Rhode Island Facility  
Time-Series Graph  
Semiannual Monitoring

Well SW-130  
In-River Well

"U"=Nondetect  
"J"=Estimated Value  
MPS=Media Protection Std.

